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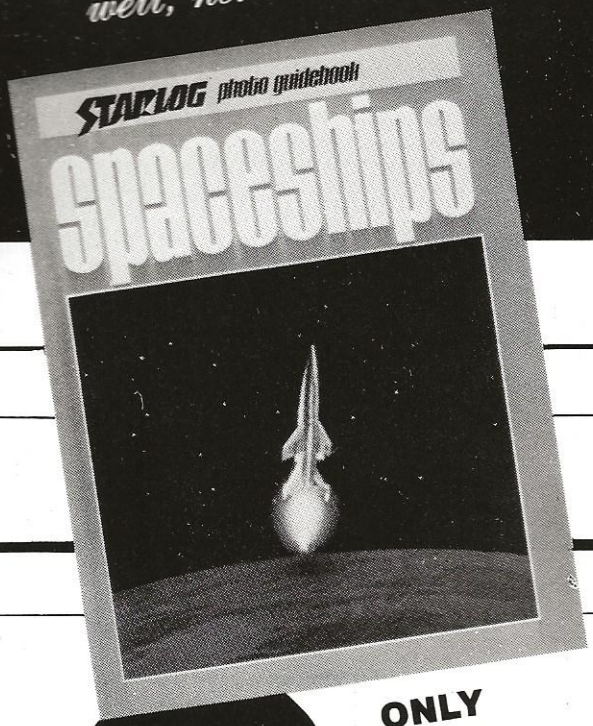

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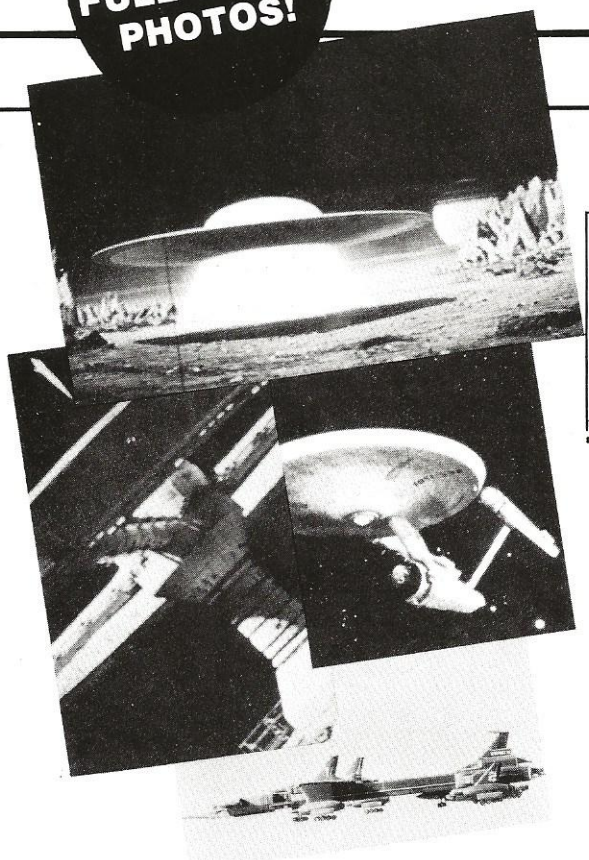

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STARLOG

NUMBER 6

THE MAGAZINE OF THE FUTURE

JUNE 1977

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Publishers:
Kerry O'Quinn, Norman Jacobs

Editor in Chief:
Kerry O'Quinn

Editor:
Howard Zimmerman

Assistant Editor:
James M. Elrod

West Coast Editor:
David Houston

Art Director:
Linda Bound

Production Assistant:
David Hutchison

Contributors:
Jim Burns, Howard Cruse, David Gerrold, Robert M. Hefley, Robert Heinlein, David Houston, Bill Irvine, Malcolm Klein, Susan Sackett, Ed Tobias, John Waldrop, Wade Williams.

About the Cover: This rare color picture from George Pal's classic film, **Destination Moon**, shows two astronauts descending the ship's ladder toward mankind's first "giant step" on the lunar surface. Our thanks to Wade Williams, collector supreme, for supplying this, our first photographic cover illustration. Robert Heinlein's behind-the-scenes story of the making of the movie starts on page 18.

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FROM THE BRIDGE ____ 4

COMMUNICATIONS
Letters From Our Readers ____ 6

LOG ENTRIES
Latest News From The Worlds Of Science Fiction ____ 8

ROBERT HEINLEIN:
The Making Of "Destination Moon" ____ 18
One Of The World's Top Science-Fiction Writers Takes Us Behind The Scenes Of Filming A Classic

FANTASTIC JOURNEY ____ 26
Photos And Interviews With The Creative Crew Of Television's Newest SF Entertainment, Including Comments From Star Roddy McDowall And Story Editor D.C. Fontana

150 SCIENCE FICTION MOVIES
A Special Pull-Out Address Guide, Including Major Cast & Production Credits ____ 35

STAR TREK ANIMATED
The Story of How They Did It, Complete With Color Cels, And A Complete Guide To The Episodes ____ 43

STATE OF THE ART
A Column Of Opinion by Author David Gerrold ____ 52

FUTURE CONVENTIONS ____ 53

SPACE: 1999 CANCELLATION
Shutting Down Moonbase Alpha, But Leaving The Door Open (so to speak) ____ 57

STAR TREK REPORT
A Fan News Column by Susan Sackett ____ 58

SPECIAL EFFECTS — PART I
Creating Miniature Models That Look And Act Like The Real Thing ____ 60

CLASSIFIED INFORMATION ____ 72

VISIONS
The Most Spectacular Celestial Event ____ 74

FROM THE BRIDGE

Recently I received a letter from an intelligent young reader who attempted to shed some light on the indignation over our use in early STARLOG issues of the term "sci-fi." "For too long," he wrote, "science fiction in literature and film has been considered by the masses to be junk, trash, and generally worthless. This has not been helped by a plethora of low-budget, poorly produced SF and horror films boasting bad acting and cardboard monsters. The 'respectable' magazines and media reviewers have adopted the word sci-fi, usually followed by words of disgust, pity and disbelief. Most of them deservedly."

Our editorial staff has officially replaced sci-fi with SF because it takes less space and makes some of our readers happy. We are *not* intimidated by perjorative uses of sci-fi by critics and other publications. While most of our readers use sci-fi as affectionate slang, it is true that the term is often used in a negative way, and it is also true that the field of science fiction frequently suffers from a bad reputation.

We don't intend to debate the roots and meanings of slang terminology. That isn't the point of this letter. We *do* lament the fact that "respectable" magazines can make us feel uncomfortable with using certain language when we talk about our own field. We resent the fact that science fiction's reputation has such power over those of us within it.

We offer the following as a statement of STARLOG's position on this issue and as intellectual ammunition for any readers who feel hurt, put down, belittled, or in any way intimidated by anyone's hostility (or patronizing smiles) toward your love and enjoyment of science-fiction dramas.

No field of literature is, by its nature, "junk and trash." There is good work and bad work within any field. There are hundreds of bad love stories written and published each year, but they don't give that entire field a lousy reputation. A field is judged by its potentials, not by its lowest representatives, and the science-fiction field has superlative potentials.

Science fiction can examine fundamentals of human character, relationships between people, social and political issues, psychological conflicts and absolutely any other issue dealing with the nature of man. Science fiction can place Man in any situation, with any plot, in order to dramatize any theme. We challenge you to name an idea, from the noblest, most intellectual heights to the common everyday level, that cannot be dramatized in science fiction. You can't. The field is limited only by human imagination.

That is an unlimited limitation.

In fact, imagination is probably the key word in science-fiction literature (including movie and TV scripts). Many a new idea has been born in the mental outrageousness of science fiction. Many a fictionalized projection has led the way to actual scientific developments. Many a warning of future disaster has sobered our thoughts about present day realities. Many a story of heroism and the world of the future has inspired us about the glory of life.

Many a science-fiction writer, in his fertile imagination, has affected our lives. Yet these are the writers who are allegedly unrealistic tale-spinners, off in a fantasy world. As we have stated before, that so-called fantasy world is the emotional fuel every human being needs to drive him toward what might be possible. It's the fuel that has inspired virtually every scientist and every creator. *Science fiction is what put a man on the Moon.*

That's science fiction literature at its *greatest*, but even at its *worst* this field can be entertaining. We've all enjoyed 'B' flicks, even with bad acting and cardboard monsters, just because there was some degree of imagination there. Imagination, in any degree, is good entertainment, and entertainment, after all, is really all the justification anyone needs to watch a show or read a book.

The "respectables" who put down science fiction, I suspect, resent the sheer pleasure a good "space opera" can deliver (another of those slang terms that can be used negatively or positively). . . as if there were some higher human goal than pleasure. We at STARLOG have no patience with that attitude. We are dedicated to entertainment (pleasure, if you will) and to our readers who hold their own personal pleasures far too dear to be intimidated by those who cannot share them.

On that note. . . here's your newest issue of STARLOG. It has more pages than ever of pure science-fiction entertainment. Enjoy!

Kerry O'Quinn/Editor-in-Chief

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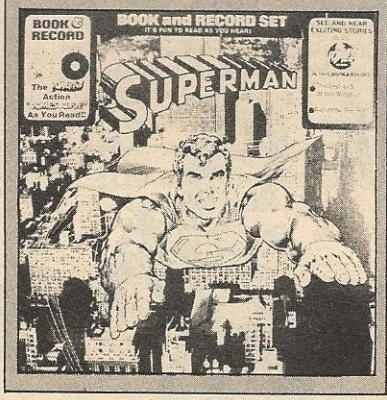

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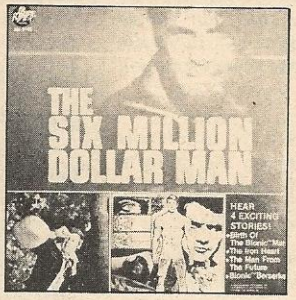

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COMMUNICATIONS

SPACE QUERIES

. . . I enjoyed the interview in STARLOG No. 4 with Nick Tate, but what really made the article interesting to me was the biography of Alan Carter. It's very difficult to find any detailed information on the characters of *Space* before they came to the Moon.

Donald MacNaughton
Huntington, New York

It wasn't until after the issue had gone to press that we found out the information on Alan Carter came from Nick Tate himself. While studying his character, Nick found the same lack of biographical info that you've noticed, so he sat down and wrote Alan's life history. ITC then forwarded the information to us.

. . . Could you tell me what the differences are in the colored patches on the uniform sleeves on *Space: 1999*? I think they stand for the person's rank, but I'm not sure.

Christopher E. Decker
Tewksbury, Massachusetts

Unfortunately, we, like you, can only presume that the various patches stand for rank and also for the particular section of Alpha that a particular person is assigned to. An additional, but limited source of further research is The Making of Space: 1999, *but there are no diagrams of the uniforms in the book.*

STAR WARS

. . . I have just finished reading *Star Wars* by George Lucas, and I remembered reading in STARLOG that Twentieth Century Fox was making the movie. Could you please print an article on the special effects of *Star Wars* and perhaps a few stills from the movie? Keep up the good work.

Dave Fanes
Toronto, Canada

STARLOG is beginning its coverage of Star Wars *in this issue (see Log Entries, page 9), and will continue with a full scale spectacular in issue No. 7, including behind the scenes photos and, of course, lots of color.*

BUT IS IT SCIENCE FICTION?

. . . I happened to come across a copy of STARLOG No. 3 the other day, and after having gone through it with a fine-tooth comb, I must write to tell you that this issue comes pretty close to being one of the most entertaining and satisfying mags that I have seen after a few years of reading the genre. The cover is apropros, and very funny, and even though it originally appeared in *Mad*, it was worth seeing again. Congratulations to Jack Rickard for his creative artwork.

Now for the bad stuff. Although Tom Rogers' article on SF Movies for TV was acceptable, I disagree completely with his including *Dr. Jekyll and Mr. Hyde* and *Frankenstein* as examples of science fiction. Science fiction to my mind usually deals with either futuristic visions of our own planet or extra-terrestrial adventures. As both stories take place in the 19th Century, I hardly see where the two fit into this category.

Thomas Hotz
Brooklyn, New York

We appreciate the praise, Thomas, but feel compelled to point out that the painting that Jack Rickard did for No. 3 was an original for STARLOG, and has not appeared elsewhere. To turn to your objections to Dr. Jekyll *and* Frankenstein, *Mary Shelley and Robert L. Stevenson had little choice as to the century of their birth, but we firmly believe that both stories fall well within the realm of science fiction. Limiting science fiction to stories of the Twenty-First Century automatically excludes not only Stevenson and Shelley, but also the likes of Jules Verne and H.G. Wells.*

FANS OF 3-D

. . . Being a fan of SF films and 3-D photography, I naturally fell in love with your March edition of STARLOG. There are a few points I would like to clear up (as trivial as they may seem some 24 years later). While it is true that many smaller towns did not exhibit 3-D films, there are obscure places, like Abilene, Texas, that indeed presented most 3-D films . . . *in 3-D*! First, Alfred Hitchcock's *Dial M For Murder* was released in Natural-Vision 3-D. Who could forget Grace Kelly's hand reaching out of the screen groping for the murder weapon while being strangled! Second, Columbia gave it all they had with Rita in 3-D for *Miss Sadie Thompson*. It was considered a comeback for Rita

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Stereophonic Sound! Giant Wide Screen!

Hayworth and a 3-D debut for her . . . and incidentally one of the best 3-D feature films.

Tom O'Steen
Malibu, California

. . . I believe that the title *Rangers of the North* listed under R.K.O. was the original title of the film released as *Dangerous Mission*. The release date of *Wings of the Hawk* under Universal-International should be 1953 and not 1955. You left out a western entitled *The Stranger Wore a Gun* (1953) released by Columbia and starring Randolph Scott and Claire Trevor. I was in school then and I remember going to see that film in 3-D with a friend. Afterward we talked about how bad it was. It is quite possible that one of the reasons that the 3-D vogue lasted such a short time was that most of the films made that way were so bad.

Jimmie Hicks
Hollywood, California

. . . *Rangers of the North* was not in 3-D. *Bounty Hunter* was filmed in 3-D, but shown flat. *Sam Spade* was never made. *Hypnotic Hick* was not the first 3-D cartoon: try Norman McLaren's *Around is Around* and *Now is the Time* (both 1950).

Daniel L. Symmes
Beverley Hills, California

. . . First may I complement you on producing an SF magazine which takes more than five minutes to read.

Secondly, I refer to your article on 3-D films. I enjoyed those I have seen, in many cases, but as your article implied, the medium collapsed partly because people were "turned off" by the rubbishy films before quality ones started to appear.

And in my opinion, one of the worst films in 3-D that I saw was the last—*The Bubble*. It gave me the impression that the writers or producers had looked around the movie lot and said to themselves, "What can we produce without actually moving any of the props scattered around."

Edward McArdle
Ivanhoe, Victoria
Australia

Starlog appreciates the information supplied by 3-D fans around the world. As stated at the head of the 3-D filmography in Issue #4, foreign films, such as the British Around is Around *by McLaren among many others, were not included since the filmography focused on* American features *of the 1950's. 3-D, part 2 in STARLOG #5 mentions some of the earlier landmark features as well as those from foreign countries.*

ROBBY

. . . I would appreciate it if you could send me any information pertaining to Robby the Robot, pictured in "Robots: Fact and Fancy" in STARLOG No. 4.

Michael Magro
Rockaway Park, New York

Robby the Robot was retired from the MGM properties department in 1971. He was in a state of disrepair and the studio did not think the property was worth the expense of repairs. He was completely gutted and his original shell stands in the Movieworld Museum in Los Angeles. The first replica of Robby was constructed by Bill Malone of Don Post Studios in 1972. The replica, precise in every detail, has made numerous appearances on film and television. In 1974 Robby III was born with the assistance of Bill Malone and is privately owned. STARLOG is preparing a feature article on the birth, life and resurrection of this most-famous of robots as part of its special-effects series.

LOST FAN MAIL

. . . Being an avid *Star Trek* devotee since 1966, I considered the television series *Lost in Space* just that. . . LOST. I felt that it was a punch line in search of a science-fiction joke. However, the passage of time and lack of high quality science-fiction series (*Space: 1999* excluded) on television, at present have caused me to reconsider my point of view slightly. *Lost in Space* did possess several good qualities even if the main one may have been the robot. Perhaps a listing of episode titles and plots would be in order. There is no valid reason for everyone to pretend it never existed.

Thomas A. Fox, Jr.
Richmond, Virginia

Everyone who writes about this show has the attitude that they are the only human on Earth who might have enjoyed the series. Although everyone apologizes for liking the show, there are piles of mail asking for a feature on it. Give us time, and your dreams will come true in STARLOG.

LOG AROUND THE WORLD

. . . I avidly await each issue of your fantastic magazine, since I am always on the search for material on *Space: 1999*.

Mike Dudley
Calgary, Canada

. . . All in all, you've done a fine job. Keep up the high quality standards that have made your magazine one of my favorite periodicals.

John F. Crossen
Okinawa, Japan

. . . Coming from a New Zealand background, I have been able to see SF productions from both sides of the Atlantic (i.e., USA and UK). I think that your American readers might be just as interested in some of the English programmes as they are with their home product. I would especially like to see articles on the series the Andersons did before *Space: 1999*. Also there are the *Dr. Who* series and *Out of the Unknown* where prominent SF writers' stories were produced into hour-long plays. Even if you don't think you can cover these shows, I would like to encourage you and your magazine. SF TV needs to be developed, and I think a publication like STARLOG can help.

Adam Broom
Dunedin, New Zealand

For a complete episode guide and story of UFO, *which was the Andersons' effort just prior to* 1999, *see STARLOG No. 5. In time, we expect to have articles on several other British series, such as* Dr. Who *and* The Prisoner.

. . . I'd like to congratulate you on publishing an excellent magazine. As a *Star Trek* fan, I found the premiere issue quite fascinating. However, I'm also a fan of *Space: 1999* and was delighted to see that you had the courage to single it out for special treatment in your second issue. Please keep printing loads of *Star Trek* items, but also remember some of us like both that and *Space*. So more of that too!

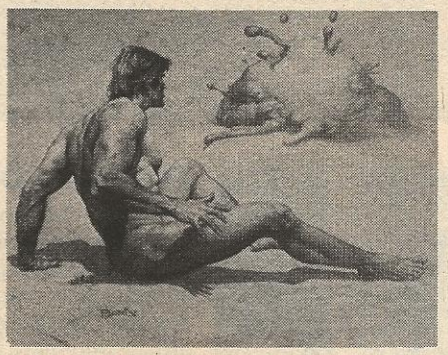
Phyl Proctor
Birmingham, England

. . . I am writing to compliment you on your superb magazine. I was able to get two copies of STARLOG No. 2 and I was so glad to see that someone cared enough to put such a good section of *Space: 1999* into their magazine. This probably seems a bit late to you, concerning No. 2, but here in Australia we don't get the magazines in the bookshops until two or three months after they have been published. Keep up the terrific work on STARLOG. I hope it's going to be around for a long time. Good luck to you all.

Cynthia Green
Tasmania, Australia

NUDITY IN STARLOG?

. . . My *least favorite* feature in this issue of STARLOG (No. 4) is your story "The Arena" (sic). Not so much the story as the artwork. When I opened the mag I thought I had mistakenly picked up an issue of *Playgirl*. I weep for todays' science fiction . . . today's publisher feels he must display a naked body on the cover. I am personally shamed and embarrassed by such "progress." The human form is such a beautiful creation



of God why do we exploit it so? I feel also that you, as the publishers and editors, should remember that the young fans you cater to *are* human and subject to sexual problems (such as homosexuality).Does your artwork influence them? I write this not as an enemy, but a fan of STARLOG; therefore I feel it my duty to warn you against nudity, whether male or female.

Terry Melton
Fancy Gap, Virginia

. . . *Of the many letters we received about our publishing of Fredric Brown's award-winning short story, this is the only one that complained about the artwork. The human form is indeed beautiful. That's why a painting of this quality is a joy to behold, in addition to being the only possible way to illustrate the story accurately. The artist, Boris Vallejo, is one of the best-known and most talented in the business. His knowledge of human anatomy and his ability to render figures of impressive stature and lifelike sensuality is, to most people, a source of pleasure . . . not shame and embarrassment. Before a reader spends a great deal of time worrying about other people's sexual problems, he would do well to get his own house in order.*

IN RESPONSE TO GERROLD

With his very first STARLOG column (issue No. 4), David Gerrold managed to reaffirm his standing in the science-fiction community—that is, he placed himself squarely in the middle of a controversy. Here are a few randomly selected reader responses . . .

. . . My favorite article in #4 is David Gerrold's *State of the Art*. Please tell Mr. Gerrold that not all of his readers are complete dolts. It took me a half an hour to read his column. I had to stop at the end of each paragraph to think (about the implications); not just to agree or disagree.

Tom Audette
Fall River, Massachusetts

I was really disappointed in David Gerrold's column. His criticism of critics sounded like a personal gripe session. Is STARLOG really the place for a personal vendetta? . . . I don't mean to be too critical of Gerrold's criticism of critics. I've read his fiction and non-fiction and enjoyed them very much. Part of his column was informative and interesting.

Rose M. Jakubjansky
Long Island City, New York

. . . David Gerrold's column was okay . . . at least we share the same opinion of critics.

Brad Larsen
Gaston, Oregon

Someone ought to tell David Gerrold to change his writing style quick—before the *real* Harlan Ellison gets mad at him.

Eugene Schwimmer
Detroit, Michigan

My least favorite article: the one by David Gerrold. Obviously you hired him for his name and not his ability. He missed the boat . . . when he wrote "The Trouble With Tribbles" and in your magazine he missed writing an article.

Merle Taliaferro
Kingsport, Tennessee

COMING SOON

. . . Besides more articles on *Space: 1999* and *Wonder Woman*, how about some articles and episode guides on some of the children's science-fiction shows like *Land Of The Lost* and *Ark II*? Older shows like *Voyage To The Bottom Of The Sea, The Time Tunnel* and *Land Of The Giants* are popular, too. My appreciation of science fiction has developed slowly but steadily, and your magazine has helped to intensify this appreciation.

Janet Rosfeld
Pittsburgh, PA

Each day our office mail brings hundreds of requests for favorite TV series and movies, and yet at conventions some fans actually ask us what we'll publish in STARLOG when we run out of shows to cover! The answer is we'll never run out. . . never, and eventually we'll cover every science fiction drama ever produced. Along the way, hopefully, we'll intensify many appreciations by introducing our readers to science fiction they never dreamed existed.

Because of the large volume of mail we receive, personal replies are impossible. Comments, questions, and suggestions of general interest are appreciated and may be selected for publication in future Communications. Write:

STARLOG Communications
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New York, N.Y. 10016

LATEST NEWS FROM THE WORLDS OF SCIENCE FICTION

LOG ENTRIES

NOTICE: TO ALL DEALERS

Due to the gigantic number of letters from readers requesting information on all kinds of products, STARLOG is preparing a future edition of our Science Fiction Address Guide which will be devoted exclusively to MERCHANDISE. If you own a book store, a memorabilia shop, or a mail order business . . . if you manufacture a product, distribute a product, or sell a product that has anything to do with *Star Trek,* science fiction, movies or television shows . . . if you want your business to be included in STARLOG's directory (a permanent reference guide for thousands of readers), write today for full details:

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Ernest Borgnine (seated) talks to a prone Michael Shannon, the android future cop.

FUTURE COP

ABC-TV has bought six segments of *Future Cop*, a new science-fiction television series whose pilot aired last year. The show will be presented irregularly, as a series of specials, on various weeknights over the next few months. *Future Cop* deals with John Haven, a police officer who looks like any other young rookie cop, but who is actually a computerized, biosynthetic android. Haven is teamed with veteran cop Joe Cleaver, a seasoned law enforcer who is aware of his partner's unconventional origin and extraordinary abilities, while others who work with him are not. Oscar-winner Ernest Borgnine portrays Cleaver, while Michael Shannon plays the cop of the future. Also joining the regular cast is Cleaver's black partner, Bill Bundy, ably brought to life by actor John (*Roots, Good Times*) Amos. *Future Cop* is being shot at Paramount Studios and on locations in Southern California. If its initial episodes earn successful ratings, it is likely that it will become a regular series during the '77-'78 television season. Anthony Wilson serves as *Future Cop*'s executive producer.

Left to right: George Pal presents the Golden Scroll Award to Samuel Z. Arkoff.

Photo: Patrick M. Jordan

GOLDEN SCROLL HONORS ARKOFF

The Academy of Science Fiction, Fantasy and Horror Films presented its Golden Scroll Awards for 1976 at a ceremony honoring Samuel Z. Arkoff, President and Chairman of American International Pictures. Mr. Arkoff was honored with the Academy's "Life Career Award." The presentation was made by George Pal. MGM's *Logan's Run* netted eight awards including Best Picture. Best Actor was split between David Bowie, *The Man Who Fell to Earth*, and Gregory Peck, *The Omen*. Blythe Danner was honored as Best Actress for her performance in *Futureworld*. Of the 150 full-length films produced by American International, 23 have been science-fiction features. Pal credited Mr. Arkoff during the presentation with doing "more for science-fiction films than any other man."

STAR WARS

Star Wars, scheduled for release this June, is a massive, sprawling spectacle of galactic repression, rebellion, and intrigue; featuring robot, human, and alien heroes, a captured Princess, larger-than-life villains, and an ancient, mysterious technique for working one's will, known simply as "the power." There are also more spaceships of different designs and functions than have ever appeared before in one film, including a planet-sized battle machine aptly named the *Deathstar*.

Pictured on this page are two pre-production paintings that can only start to suggest the scope and action of this grand-scale space opera.

Star Wars is a 20th Century-Fox Production.

Above: The scene depicted here is of an imminent confrontation between the forces of rebellion and those of repression. On the left are the young farmer-turned-galactic-hero, Luke Skywalker, and some of his fellow rebels—the barbarous-looking alien giant is called a *Wookie*. The deadly weapon being held by one of the rebels is a light sword or *laser-sabre*. The group is about to confront a squad of robot guards, also equipped for close-quarters fighting.

Below: You are looking out through the cockpit window of one of the various space-fighters designed for the film. The "metal planet" that is partially in view is the awesome *Deathstar* itself. The action is part of a spectacular space battle that occurs near the end of the movie. We don't want to give too much away before you've had the chance to see this one for yourselves. However, next issue (coinciding with the movie's premiere) we will be running a full feature on *Star Wars*, complete with color stills and behind-the-scenes information.

Photos: © 20th Century Fox

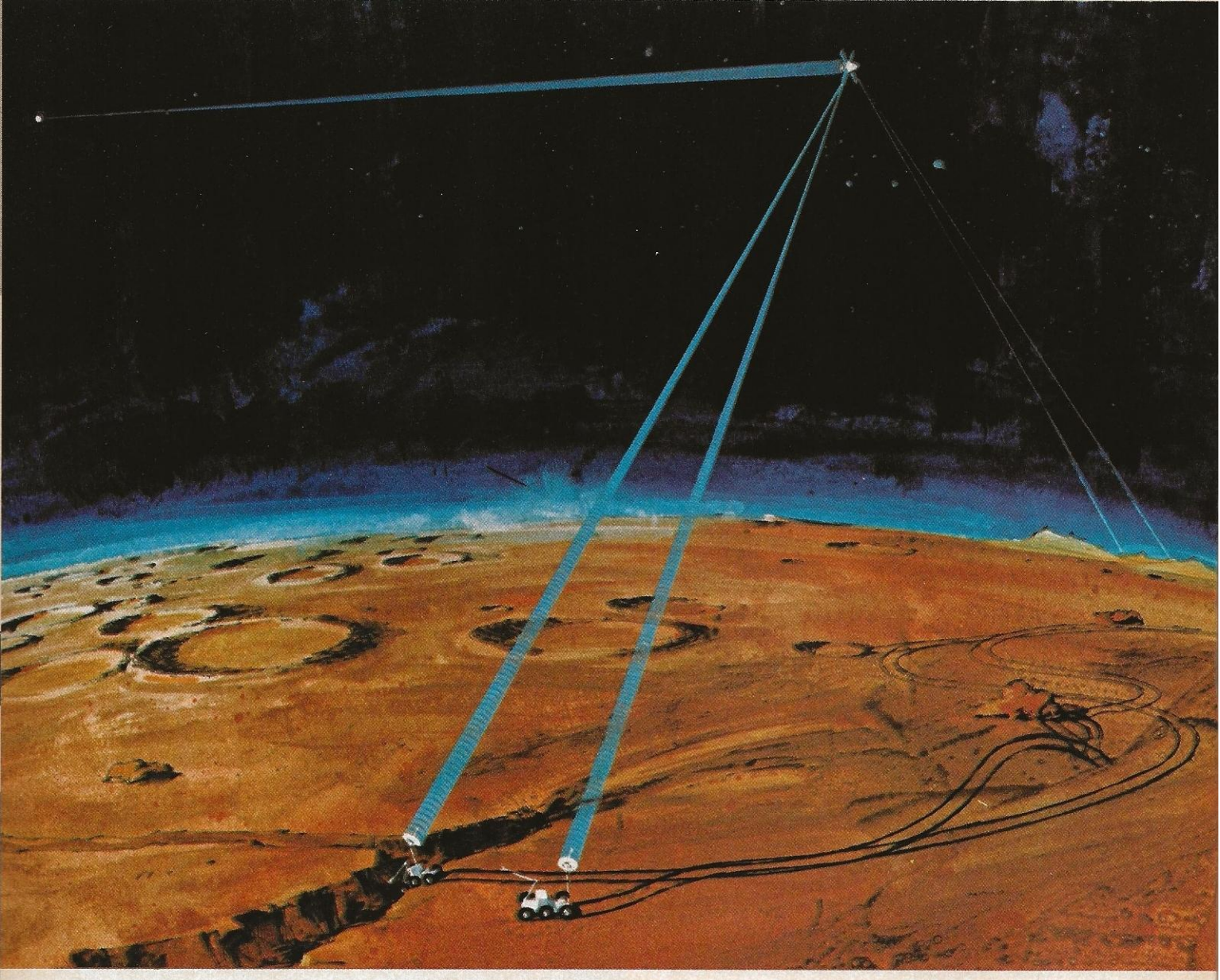

Photo: NASA

NASA SCIENTISTS READY FOR MORE

The highly successful but inconclusive Mars/Viking mission has served to whet the appetites of Earth scientists. The Viking orbiters and landers provided them with all sorts of surprising and puzzling information and has left them chafing at the bit for a follow-up program. The mission that NASA is now working on is the one that many space scientists would have preferred as the initial investigation. It calls for landing a pair of Mars Rovers ("Vikings on Wheels") on that planet's surface in the early 1980's. The Rovers would gather scientific data from several wide-ranging areas and send it to their mother Orbiter for relay to Earth. It is projected that these mission-controlled vehicles could travel up to three miles a day and help one another as needed. The importance of the Rover mission cannot be overstated. Many scientists are convinced that if the Viking lander could just have gone to take a look over the top of the nearest hill, several of their questions might have been answered. If the Rover mission is successful enough to generate vast popular interest in the space program again, NASA scientists will push for a third mission, what they call a "return sample mission."

Since a manned landing doesn't seem to be a viable proposal at the present time, scientists feel that an instrument package capable of picking up samples of Martian surface and subsurface materials is the best alternative. It would be much more expensive than even the Rover mission, however, so NASA publicists are waiting for a more receptive public atmosphere before fully revealing their extended plans.

BLOOD CITY

Being readied for release is producer Marilyn Stonehouse's *Blood City*, a coproduction of Ambassador Films and Amicus Films. The science fiction drama, scripted by Michael Winder and Stephen Schenk, is set in a violent Western town. The movie features an all-star cast of fantasy film veterans including Jack Palance (CBS-TV's *Dracula*), Kier Dullea (*2001: A Space Odyssey*), and Barry Morse (first season star of *Space: 1999*). *Blood City* is directed by Peter Sasdy and is supervised by executive producer Stanley Chase (best known for his work on *Colossus: the Forbin Project*).

S2

S3

S4

S5

S6

S7

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SPECTRE

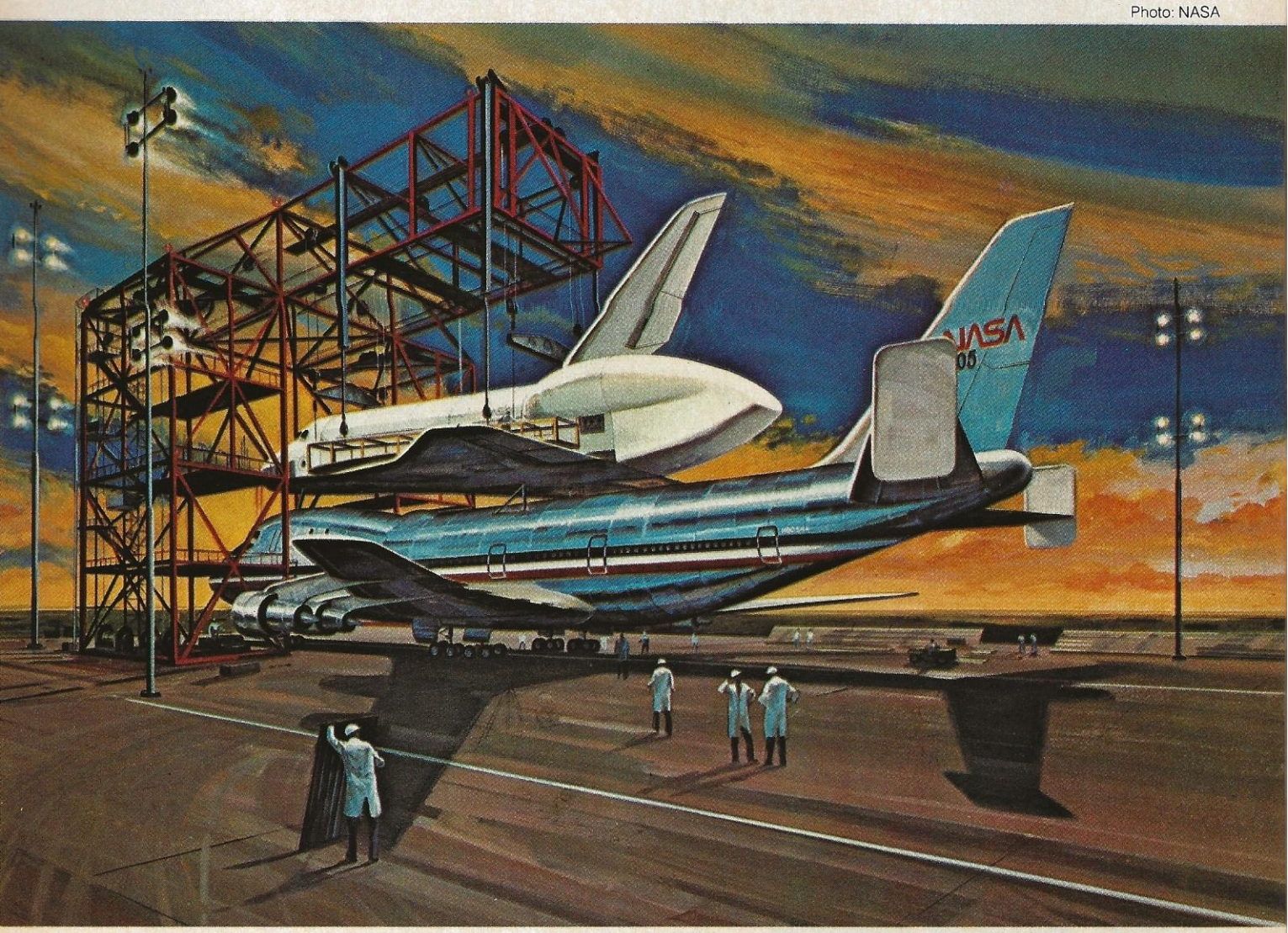
Gene Roddenberry began filming *Spectre*, a gothic horror movie for NBC-TV, January 4 at Elstree Studios in London, England. *Spectre* deals with the accidental unearthing from Druid ruins of a mythological demon, Asmodeus, the legendary Prince of Lechery. *Spectre* will presumably follow its protagonists: William Sebastion, Doctor Hamm, and Cyon (see Log Entries, *Starlog* #3), as they pursue the ageless devil.

Spectre stars Robert Culp as Sebastion and Gig Young as Hamm. Culp, readers may recall, is the actor who previously starred in the popular TV series *Trackdown* and *I Spy*. Gig Young is the seasoned movie veteran best remembered for his roles in *The Desperate Hours* and *They Shoot Horses Don't They*.

Directed by Clive Donner, *Spectre* will serve as a pilot for a potential television series. Such a series, Roddenberry recently said, would follow Sebastion, Hamm, and Cyon (part man and part were-tiger), "... as they travel around the world battling vampires, demons, and other dubious creatures in a fight between mankind and the 'others,' a group of beings who have been striving for thirty centuries to take over Earth."

Assisting Roddenberry in England is associate producer Daniel Steinmann. *Spectre* is expected to air on NBC as a fall series.

Photo: NASA



FLIGHT TESTING THE *ENTERPRISE*

Now that all of the hoopla and controversy surrounding its naming and roll-out have abated, the Space Shuttle *Enterprise* will get down to business. It is being used to test the orbiter vehicle's ability for unpowered atmospheric maneuvering and landing. Even though the shuttles are equipped with guidance rockets for changes of orbit and space rendezvous, they are designed to return and land as powerless gliders. To test this, the *Enterprise* will be mated to the top of a Boeing 747. The first step, ground testing, has been successully completed at NASA's Dryden Flight Research Center at Edwards Air Force Base in California. This consisted of the mated pair taxiing up and down the runways to check vibration levels. The second step calls for "piggy-back" flight testing. An enormous crane had to be devised and built to mount the shuttle atop the 747 (see accompanying picture). As of now, the schedule calls for the first flight test on July 22 of this year. The *Enterprise* will be hauled to an altitude of 27,000 feet. The 747 will then ease its nose down and at 24,000 feet a series of explosive bolts will loose the shuttle from its back. The shuttle will go through a series of maneuvers (including a 180 degree turn) and six minutes later will touch down at a ground speed of approximately 206 miles per hour.

CHRIS REEVE TO PLAY *SUPERMAN*

After screen-testing over 200 actors, including Sylvester (*Rocky*) Stallone and Arnold (*Mr. Universe*) Schwarzenegger, producer Ilya Salkind finally cast the title role for his latest project, *Superman: Part I* and *Part II*. (They are being filmed simultaneously.) Chosen to portray "the man of steel" is actor Christopher Reeve. Chris is 24 years old, stands 6'4" tall, and weighs 190 pounds. At the official announcement at New York's chic restaurant, Sardi's, it was revealed that Chris will be doing various exercises and lifting weights to achieve a *Super* physique. Although Salkind had said he wanted an unknown for the part (so as not to have the character overshadowed by a big name), Reeve hardly fits the description. The Cornell graduate has many acting credits from the legitimate theater, including appearances in repertory companies and the Princeton Shakespeare Festival. In 1975 he appeared opposite Katherine Hepburn, touring the East Coast in the pre-Broadway production of "A Matter of Gravity." But Chris will be most readily identifiable to TV soap opera fans. He played Ben Harper for two years on the CBS serial "Love of Life." Now that *Superman* has been cast, production will continue in earnest on the two films, with Part I now scheduled for a mid-'78 release. Waiting to find the right leading man was the biggest set-back that the production has suffered, but not the only one. Other, minor problems have involved Marlon Brando, who is getting almost ten percent of the film's estimated $25 million budget for his role as Jor-El, Superman's father. Last November, with shooting about to start, Brando decided that he could not work in Rome, so stakes were pulled up and the production moved to London. Unfortunately the director at that time, Guy Hamilton, had to resign due to his tax situation in England. New director Richard Donner was then faced with a threatened walk-out by the British unions to protest his minimal use of British actors. The only bright spot in this series of delays was that it allowed scriptwriter Lynn Stalmaster additional time to work on the script. He has written in a scene in which Brando and Gene Hackman (who plays the evil genius Luthor) will appear together; a scene only made possible by the delay in shooting.

LOVECRAFT ON THE SCREEN

Production has started on Cinema Vista's film *Cry of Cthulhu*, inspired by H.P. Lovecraft's *Cthulhu Mythe's* tales, with release date tentatively set for mid-summer. David D. Hurd has written the original screenplay for the film with the full compliance and recommendation of Arkham House Publishers. *Cry of Cthulhu* is about a young couple who unwittingly discover a doorway to another dimension and accidently unleash hellish demons into our world. Mr. Hurd,in addition to being writer, is co-producing the film with his partner, William Baetz. In order for the *Cry of Cthulhu* to be visually convincing the special effects must seem totally realistic. The producers have contracted Robert Dyke and Thomas Roy whose effects company will handle the elaborate technical work. Director of special effects is Thomas J. Roy. Mr. Roy has been an active filmmaker for over five years. He has produced several animated film projects and has been employed as an art director for several Detroit area motion picture production firms. Dyke and Roy have recently co-produced various animation and special effects projects. They designed the

© Cinema Vista 1977

effects sequences for Ford Motor Company's Renaissance Center film. They have also executed animation films for such clients as the Chrysler Corp., and WJBK-TV2. This unique horror story from Cinema Vista will be filmed entirely on location in Michigan, using the local countryside as the background for this eerie tale. The producers also have a novelization of the screenplay in preparation.

© AIP 1977

WELLS ADAPTATIONS—AIP UPDATE

As previously reported in STARLOG #4, this summer will see the release from AIP of two H.G. Wells classics—*The Island of Doctor Moreau* and *Empire of the Ants*. H.G. Wells' story of Dr. Moreau, the man who sought to create men from animals, received its first screen treatment as *The Island of Lost Souls*. It was released by Paramount in 1932, and starred Charles Laughton. Though Paramount visualized Wells' classic as fantasy, AIP sets the film firmly in 1911 and seeks to underscore the *science* half of science-fiction by playing for total realism. Director Don Taylor and Production

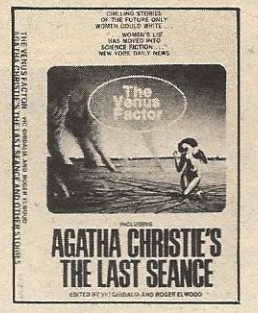
One of Dr. Moreau's *humanimals.*

Michael York is the shipwrecked Braddock; Burt Lancaster is the nefarious Dr. Moreau.

Designer Philip Jeffries have approached their conception of the film by believing that every bit of the action taking place on Moreau's island *can happen*. The shipwrecked Andrew Braddock, played by Michael York, drifts ashore on an uncharted Pacific island where he is rescued from hungry jackals by Dr. Moreau's assistant, Montgomery, played by Nigel Davenport. Burt Lancaster plays the famous Dr. Moreau who has been experimenting with chromosomes, changing genetic codes to make animals human. Barbara Carerra stars as the fascinating and exotically beautiful Maria, inhabitant of Dr. Moreau's island and mysterious source of attraction for Braddock. In an effort to save his failing experiments, Dr. Moreau experiments on Braddock in the hope that the young seaman will be able to tell him what is happening as the animal mind overtakes the human. It is at this point that AIP's version diverges spectacularly from Paramount's earlier effort as events and twists of plot lead to an apocalyptic conclusion.

Joan Collins stars in AIP's production of *Empire of the Ants*, also by H.G. Wells and slated for release sometime this summer. Ms. Collins also starred in AIP's earlier Wells release *Food of the Gods*, produced and directed by Bert I. Gordon—the man responsible for *Empire*. Mr. Gordon has developed a new process called *Matex III*, which he describes as "creating a depth dimension which imparts a realism to special visual effects never before attained." Robert Lansing co-stars in the Wells classic which was adapted for the screen by Mr. Gordon.

MS. DIRECTION IN SF



Women's Lib comes to SF with the publication of *The Venus Factor* (Manor Books, $1.25). With Roger Elwood as co-editor, Vic Ghidalia has produced the *creme de la femme* of science-fiction authors writing about women who dabbled in the mysteries of time and space. Highspot of the anthology is a rare excursion by Agatha Christie into the realm of speculative fiction as she relates the chilling tale of a medium who evokes a vision so real it threatens her very existence, in "The Last Seance." Judith Merril is represented with "The Lady Was A Tramp," pitting one woman against five men and *the unknown* aboard a space ship. Lady Cynthia Asquith evokes an atmosphere of gothic terror with "God Grante That She Lye Still" contributing to a subject so popular with novels and movies today—that of a woman possessed by an unspeakable evil from the past. C.L. Moore, who recently stated that she plans to return to writing following several years of voluntary retirement, recalls "The Dark Land" of sword and sorcery where a beautiful female ruler is pursued by a devil-god who wants her for his bride. A dying woman is snatched into another dimension in Gertrude Atherton's tingler "The Foghorn." Anne McCaffrey's "The Ship Who Disappeared" asks the question "Can a male crew work on a ship in space operated by the brain of a female?" Big Brother is watching, but little sister may control the world, according to Zenna Henderson's "Against Authority," while Miriam Allen De Ford searches for the "J-Line to Nowhere."

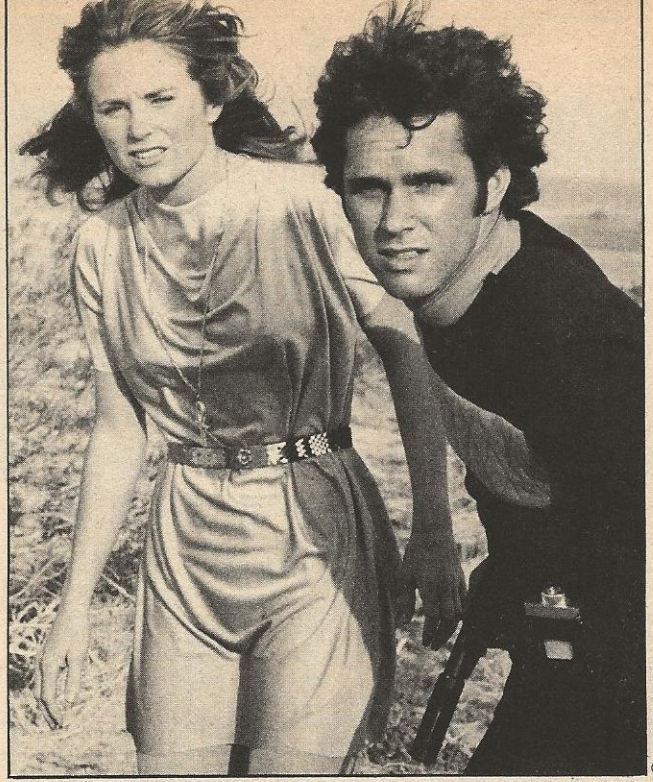
CRICHTON FANTASY ILLUSTRATED

Bantam Books has just released a special, illustrated pocketbook edition of Michael Crichton's *Eaters Of The Dead*. Crichton, of course, is the best-selling SF author of *The Andromeda Strain* and *The Terminal Man*. *Eaters* is the story of a tenth-century Arab diplomat's expedition to the wild barrens of the Norsemen—where he encounters the dreaded "eaters of the dead." Bantam art director Len Leone commissioned the illustrations by noted science fiction and fantasy artist Ian Miller exclusively for this edition. There are sixteen illustrations throughout the text as well as beautifully rendered headings for each of the fifteen chapters. To insure that Miller's artwork will reproduce as well as possible, Bantam has printed the book on special, high-quality stock paper. The first print run of this edition is a whopping 450,000 copies.

LOGAN'S RUN: AUTHOR'S UPDATE

As part of STARLOG*'s continuing coverage of* Logan's Run *projects (from comics to TV), here is an update that we received from a man in the know—William Nolan, co-author of the novel* Logan's Run*:*

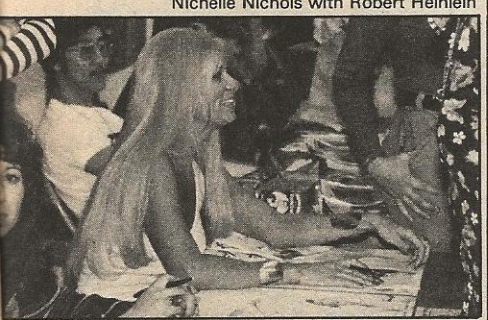
Logan lives! Producers Ivan Goff and Ben Roberts began production in February on the *Logan* CBS/TV series. I co-scripted the 60-minute pilot with Saul David, dealing with City-escape elements from the book-film, but extending these into an outside-the-City wilderness adventure. A new character has also been introduced: "Rem," a robot companion to Logan and Jessica. Casting on the series stands as follows: Gregory Harrison as Logan; Heather Menzies as Jessica; Donald Moffat as Rem, Randy Powell as Francis. Director of the pilot is Robert Day and Ira Steiner is the Executive Producer. Beyond the pilot script, three other *Logan* episodes have been ordered by the network via MGM Television. The first of these, "The Thunder Gods," I am co-scripting with Dennis Etchison. The series will make its debut in Sept.-Oct. of '77 (we hope!). Additionally I have just contracted with Bantam Books to write a solo-byline sequel novel, *Logan's World*, as a paperback original due out late this year. It will be a sequel to both the original novel and to the MGM film. The Marvel Comics version of *Logan's Run* will continue with new adventures of Logan and Jessica in the twenty-third Century starting with issue number six. There may be a future tie-in between MGM Television and Marvel, with the comic book adapting the TV stories to illustrated format.


© MGM 1977

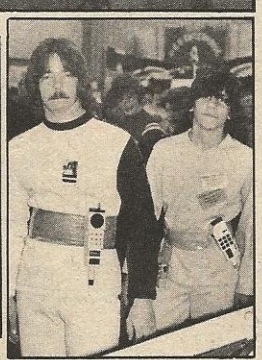
Heather Menzies is Jessica and Greg Harrison is Logan in the TV pilot.

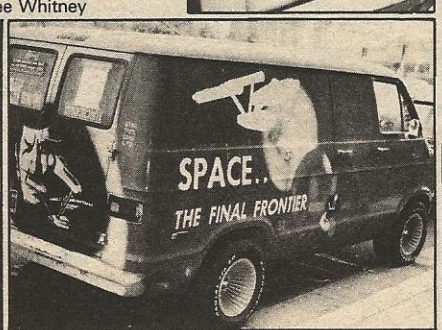
We wish to thank Mr. Nolan for his letter containing this information along with many kind and supportive words about STARLOG. *In the future we will continue to present the latest word on SF projects, direct from the creative talents involved whenever possible.*

Nichelle Nichols with Robert Heinlein



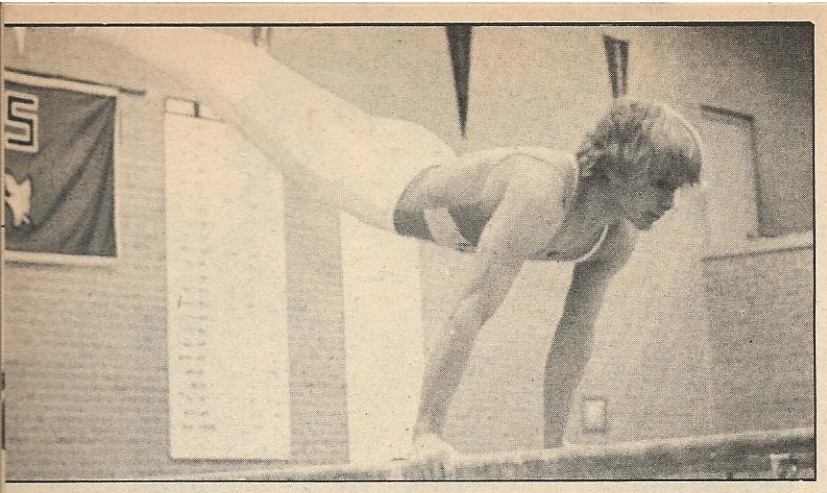
Grace Lee Whitney





SAN FRANCISCO SPACE CON

After about noon of the second day it ceased to be startling when one saw six Enterprise crew members, two disfigured monsters, a Rollerball player, a couple of Moonbase Alphans, three kids with their bewildered parents, and a dignified man in a business suit. . . all lined up in the hall of the San Francisco Civic Auditorium waiting to buy hot dogs, "moonpies," and something called "celestial nectar" (Coca Cola, renamed for the occasion). The dates were February 11, 12 and 13th, and this was the second big convention in the Bay area in less than nine months. The guests included DeForest Kelley, Nichelle Nichols, James Doohan, George Takei, and Mark Lenard and Grace Lee Whitney, all of the *Star Trek* crew, but this was not strictly a *Trek*con. Famed SF writers Robert Heinlein, Harlan Ellison, Theodore Sturgeon, Larry Niven, Alan Dean Foster, and Robert Silverberg, among others, were guests. STARLOG's newest columnist, Susan Sackett, was there to help answer questions about the *Star Trek* movie, and Jesco Von Puttkamer was one of several space scientists on hand to discuss such panel topics as "Solar Power From Space." The movie presentations ranged from *2001: A Space Odyssey* to *Things To Come*. Although STARLOG's editor autographed many copies of the magazine and talked with hundreds of fans, he didn't create nearly the traffic jam that Grace Lee Whitney did. Her line was longer than the one for "celestial nectar."



SPOCK JR. BOY TIME TRAVELLER

At 24 years of age, Patrick Lajko was an expert in designing and building computer systems, an accomplished pipe organist, one of the top five gymnasts in the country, an avid Trekker with a collection of almost every episode on videotape, and rather malcontent. He longed, as many do, to relive his high school days and *do it right*. In spite of his straight-A record he still felt, "If I knew then what I know now . . . " For most, such longings are idle daydreams. Patrick made his dream come true. With a little help from several friends, he created a new identity, 16-year-old Scott Johnson, and enrolled in East High School in Wichita, Kansas last September. His blond boyish looks easily fooled his fellow students who grew used to seeing their classmate hop out of his car with NCC 1701 on the side. His teachers found him unusually bright, but weren't suspicious because of his open admiration for Mr. Spock's mental control and cool logic. The balloon burst in mid-December when Patrick's superb gymnastic skills attracted press coverage, and he was unmasked. At present several movie companies have expressed interest in his story as a possible vehicle for TV or theatrical release. Several Patrick Lajko fan clubs have sprung up, and the boy who brought yesterday in touch with tomorrow in his own life is touching the hearts and dreams of youthful spirits everywhere. As for Patrick, he's busy looking for computer work and trying to capture those last few episodes of *Star Trek* that will complete his collection.

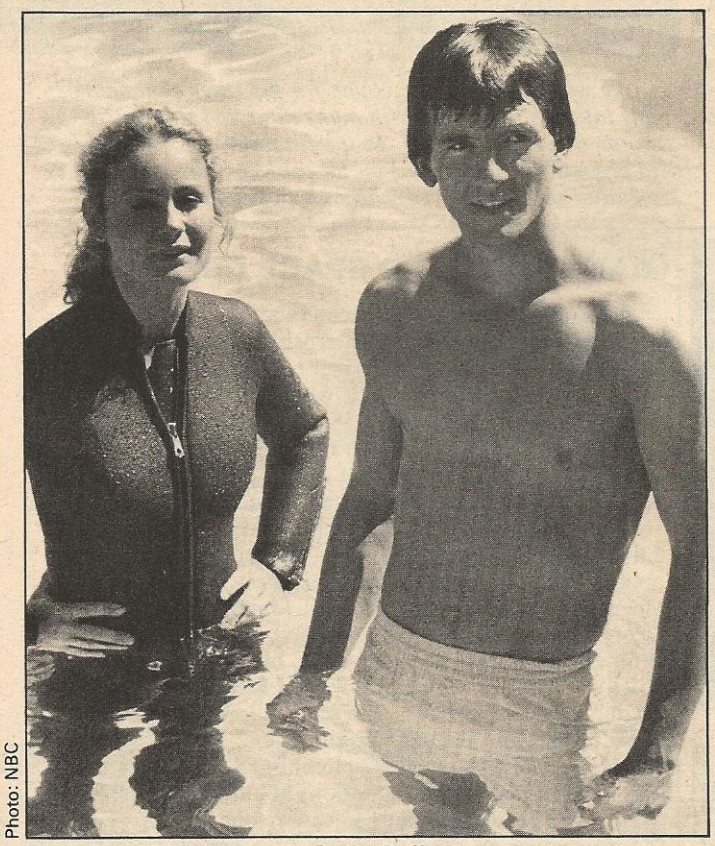


Photo: NBC

Belinda Montgomery and Patrick Duffy

THE MAN FROM ATLANTIS

Premiering on NBC March 4th as a two-hour TV movie, *The Man From Atlantis* was a pilot for a possible future series. This show starred Patrick Duffy in the title role, Belinda Montgomery as Navy doctor Elizabeth Merrill, and Victor Buono as the evil Mr. Shubert. Discounting its somewhat familiar plot, the show was one of the best TV SF ventures of the last few years. Patrick Duffy was totally convincing as the web-fingered, cats-eyed (for seeing in dark ocean depths) Atlantean who is discovered lying unconscious at the ocean's edge. He had apparently been buffeted about by strong undersea currents and received a blow on the back of his head, causing amnesia. Victor Buono turned in the show's best performance as the soft-spoken, iron-willed leader of a vast undersea complex. He had been luring marine scientists into his lair and enslaving their brilliant minds through the use of "obedience bracelets." His plan for world conquest was devilishly simple: he would send out an electronic signal causing the atomic missiles aboard every submarine to be simultaneously launched toward their targets. The resulting war would "cleanse the Earth's surface," while he and his scientists bred a new species of man—one capable of living and breathing underwater. Of course, the man from Atlantis put a stop to his maniacal scheme. The visual delights of the show were the underwater sets and the special effects. The shots of Pat Duffy swimming around like a fish and "*breathing*" underwater were absolutely convincing. Although NBC has not committed itself to a definite go-ahead for a fall series, the very high ratings for this pilot film almost assure that *The Man From Atlantis* will be swimming into living rooms this September. ★

NEXT ISSUE:

STARLOG No. 7

on sale

THURSDAY JUNE 2, 1977

NOTICE TO READERS

Unfortunately, STARLOG No. 5 contained a couple of color photos which the printer positioned off register, creating the double-image, out-of-focus effect. Our apologies for this unforgivable breach of quality. We are constantly working to achieve the highest standards of production to match our editorial material.

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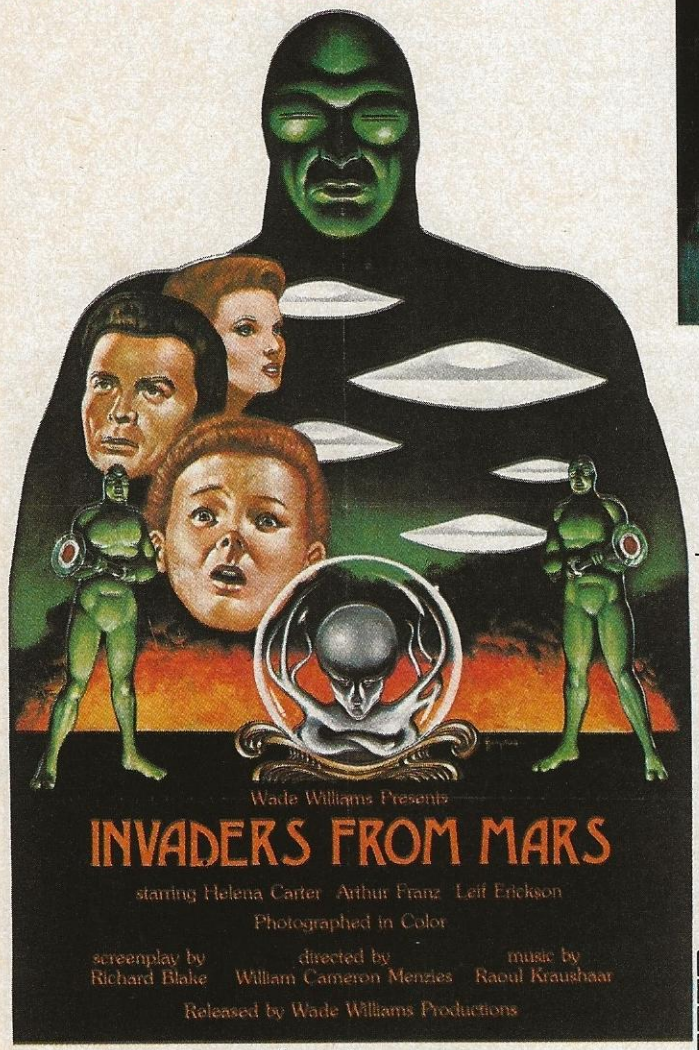
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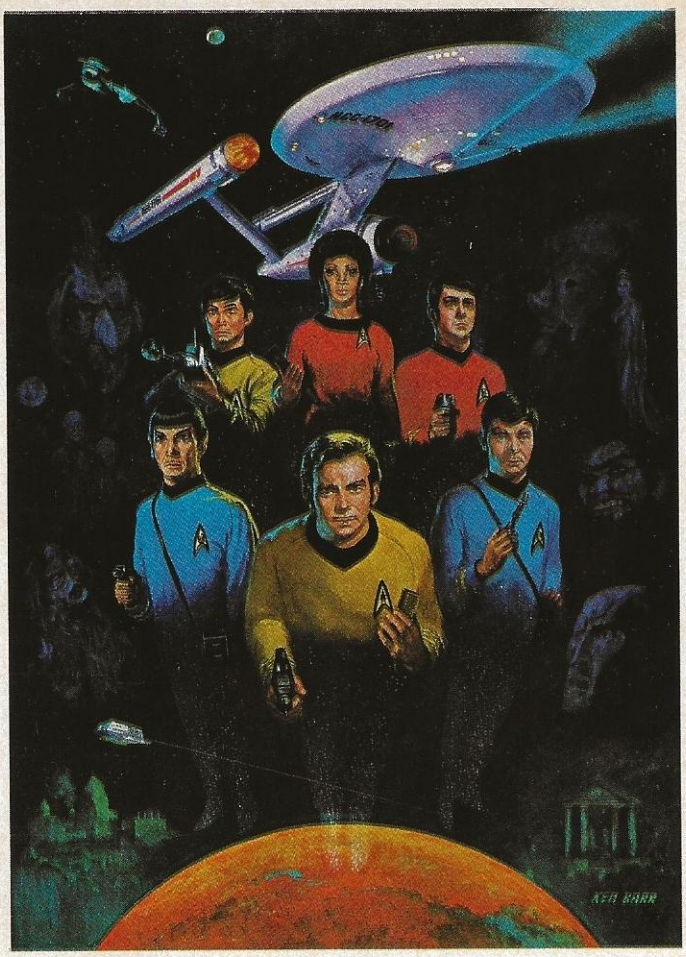

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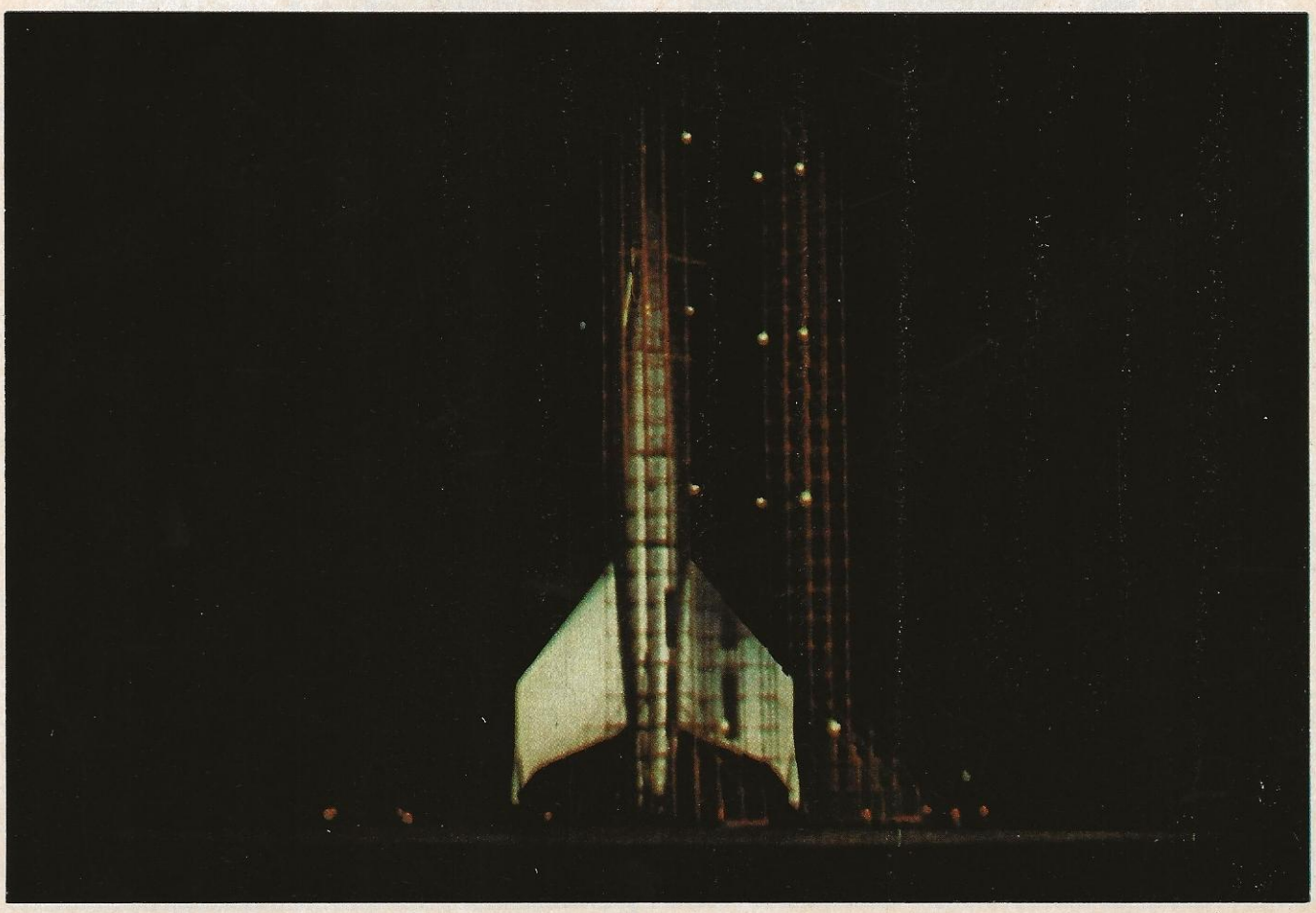
A movie script that calls for massive special effects is *not* a producer's dream. Add to that the necessity of accurately portraying a technological event that has not yet occurred, in an environment never before experienced with no chance for location shooting, and you have a bona fide producer's nightmare.

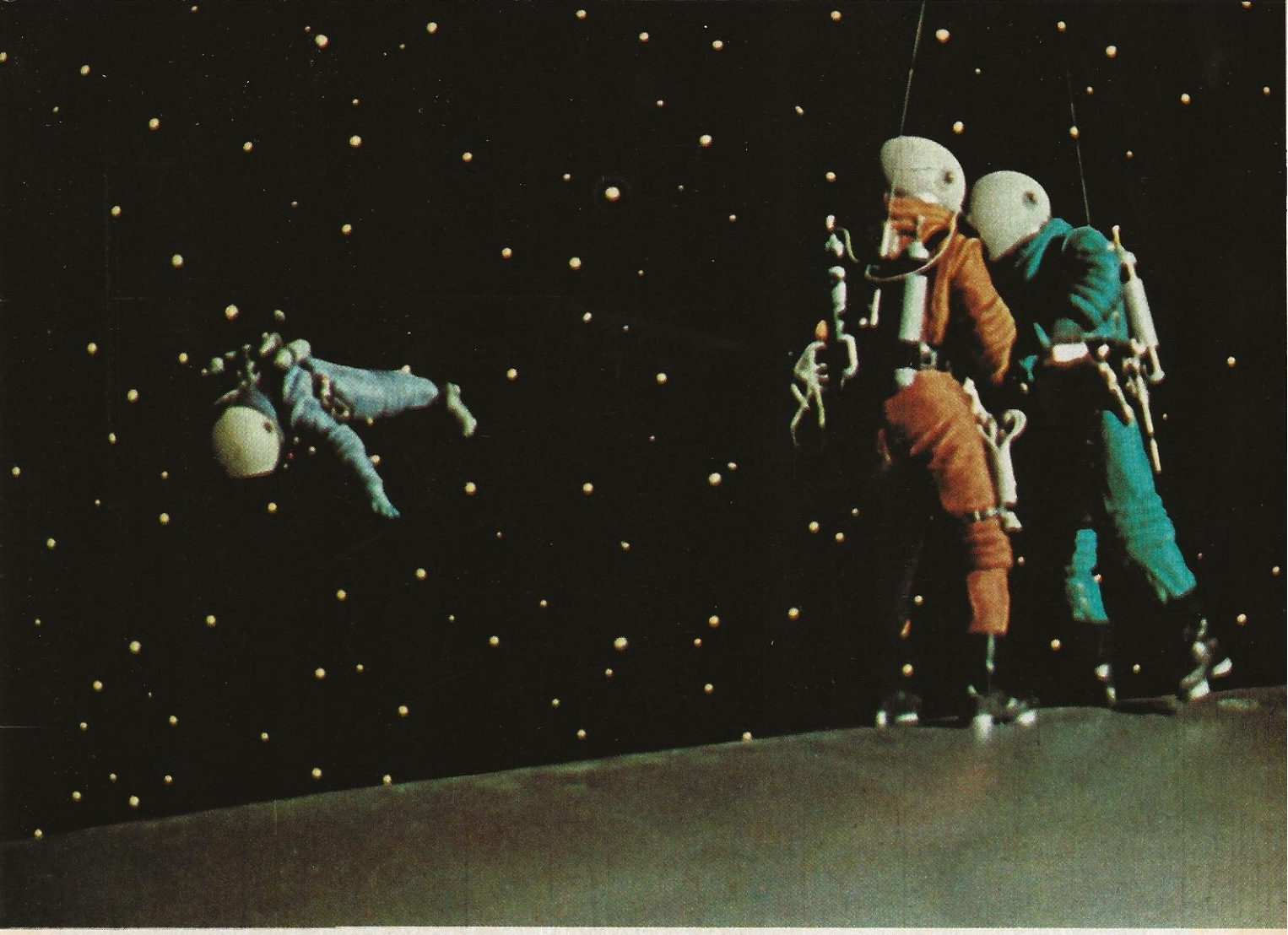
In 1950, science-fiction author Robert Heinlein arrived in Hollywood with the idea of making just such a film. Six years before the first American satellite was launched and nearly two decades before the Apollo Moon missions, Heinlein proposed the making of a scientifically accurate portrayal of the First Manned Lunar Landing.

Robert Heinlein, well-known in the SF field for his novels *Starship Troopers, Stranger in a Strange Land, Time Enough for Love*, and many others, was fortunate enough to be joined by some of the most talented people in the motion picture industry in the creation of *Destination Moon*. George Pal produced it; Chesley Bonestell acted as technical advisor; Lionel Linden was director of photograhy; Lee Zavitz was in charge of special effects; Leith Stevens wrote the music.

Still, the eighteen-month project was nearly abandoned several times because of seemingly insurmountable obstacles. Here Mr. Heinlein recalls for us some of those difficulties encountered in turning a nightmare into a beautiful dream.

In order to accomplish the sensational visual effects proposed in early artists' sketches (above) the special effects staff built life-like scale models (below) for several scenes in the film and rigged massive sound-stage sets (opposite page) with complex wiring systems.





ROBERT A. HEINLEIN

The Making Of DESTINATION MOON

"Why don't they make more science fiction movies?"

The answer to any question starting, "Why don't they—" is almost always, "Money."

I arrived in Hollywood with no knowledge of motion-picture production or costs, no experience in writing screenplays, nothing but a yen to write the first Hollywood picture about the first trip to the moon. Lou Schor, an agent who is also a science-fiction enthusiast, introduced me to a screenwriter, Alford van Ronkel; between us we turned out a screenplay from one of my space travel stories.

Reprinted by permission of the author's agent, Lurton Blassingame. Copyright © 1950 by Street & Smith, Inc., 1977 by Robert A. Heinlein.

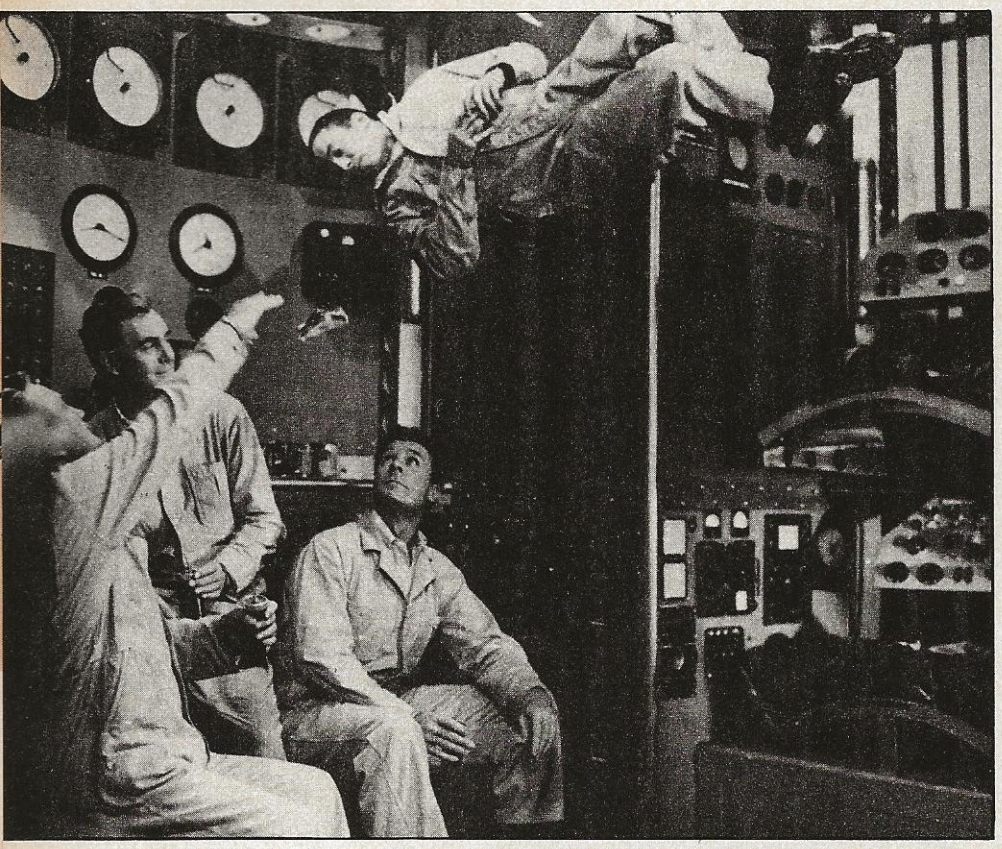
So we were in business—

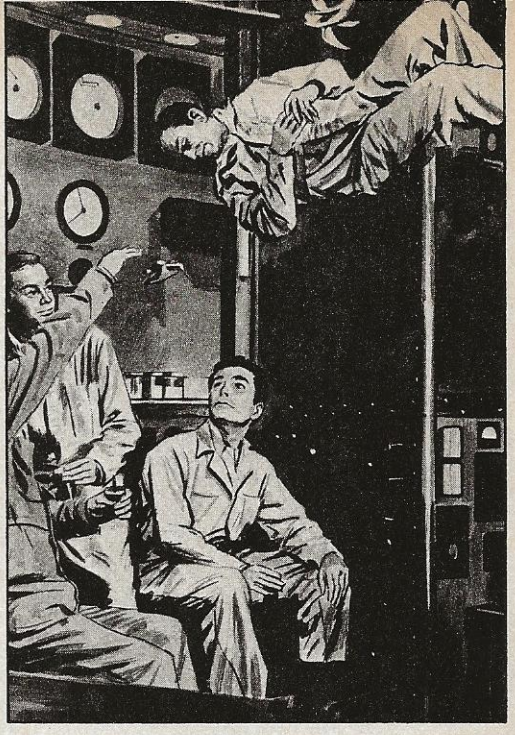
Uh, not quite. The greatest single production problem is to find someone willing to risk the money. People who have spare millions of dollars do not acquire them by playing angel to science-fiction writers with wild ideas.

We were fortunate in meeting George Pal of George Pal Productions, who became infected with the same madness. So we had a producer—*now* we were in business.

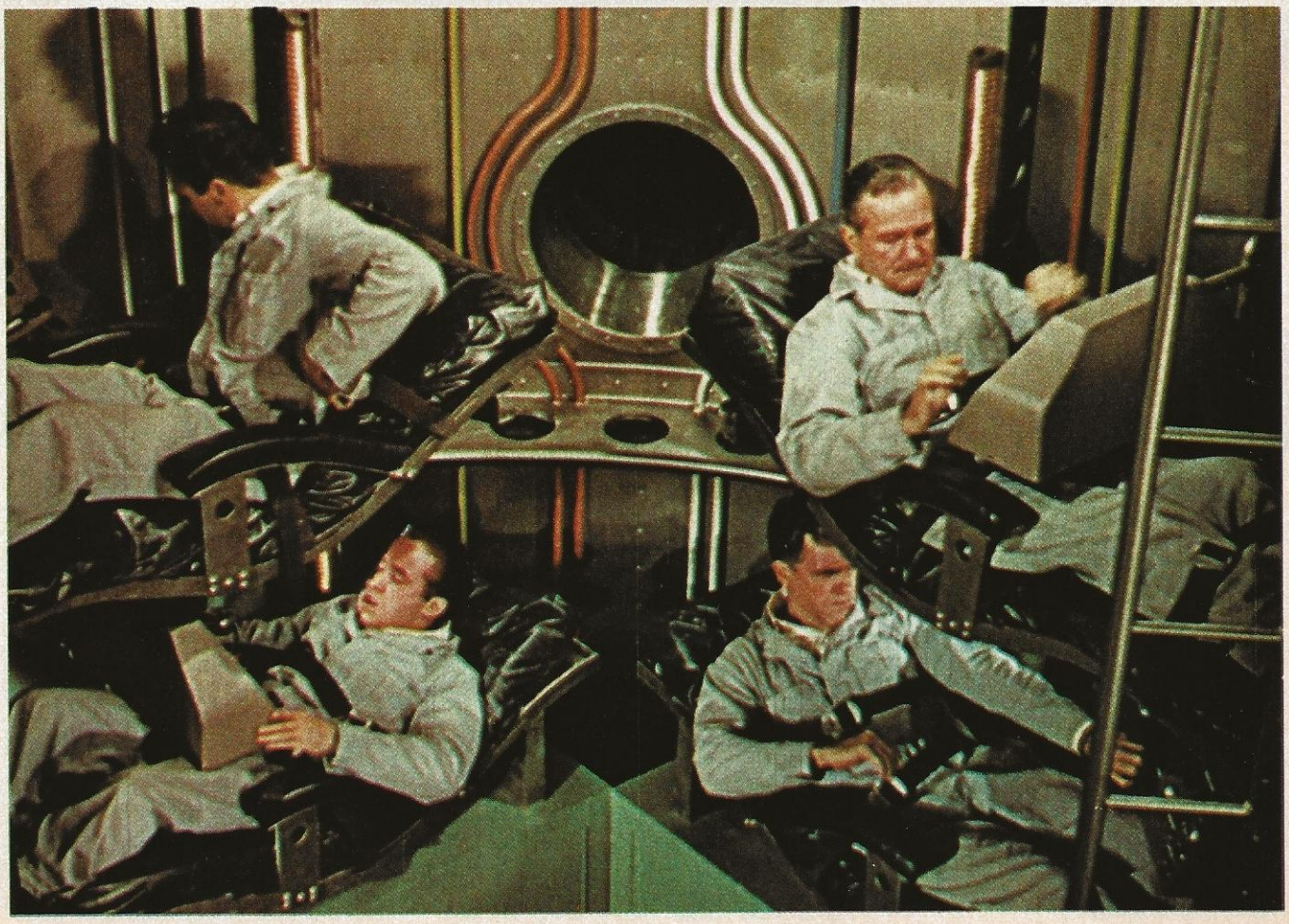
Still not quite—producers and financiers are not the same thing. It was nearly a year from the writing of the screenplay until George Pal informed us that he had managed to convince an angel. (How? Hypnosis? Drugs? I'll never know. If I had a million dollars, I would sit on it and shoot the first six science-fiction writers who came my way with screenplays.)

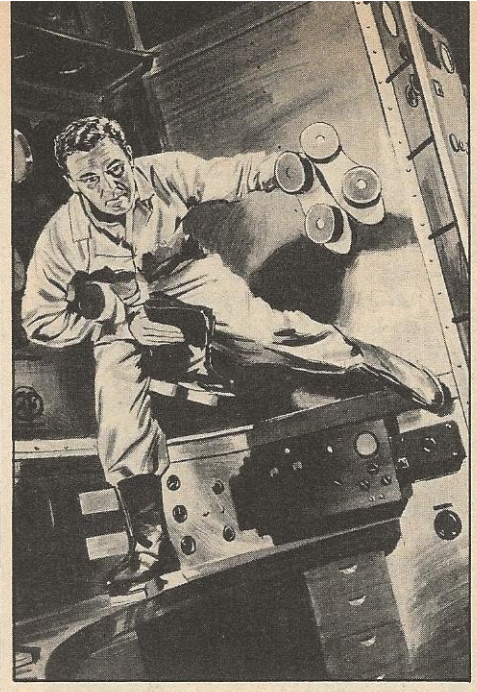
Despite those huge Hollywood salaries, money is as hard to get in Hollywood as anywhere. The money men in Hollywood write large checks only when competition leaves them no alternative; they prefer to write small checks, or no checks at all. Even though past the big hurdle of getting the picture financed, money trouble remains with one throughout production; if a solu-





Above: Rare original art showing the Luna crew in weightlessness of space, and the actual scene (left) as the four astronauts get used to eating and relaxing without G's. Author Heinlein explains the evolution cabin design went through before these effects could be technically accomplished while still maintaining authenticity.
Below: Prone in acceleration couches, four civilian experts prepare for man's greatest exploration—Heinlein's dream come true.





Above: Artist's sketches showed how crew would walk around cabin walls with aid of magnetic boots. Effect in movie is truly convincing. Right: Unprepared for weightlessness, Joe floats free—accomplished by turning cabin set at angle so wire rig can lift him up and out of couch. Camera was also turned to match tilt of set. Watching film one never thinks to look for wires leading off right hand side. Left: Receiving the bad news that too much fuel was burned in landing on the Moon, and ship is overweight.

tion to a special effects problem costs thirty thousand dollars but the budget says five thousand dollars, then you have got to think of an equally good five thousand dollars solution—and that's all there is to it.

I mention this because there came a steady stream of non-motion-picture folk who were under the impression that thousand-dollar-a-week salaries were waiting for them in a science-fiction picture. The budget said, "No!"

The second biggest hurdle to producing an accurate and convincing science-fiction picture is the "Hollywood" frame of mind—in this case, people in authority who either don't know or don't care about scientific correctness and plausibility. Ignorance can be coped with; when a man asks, "What does a rocket have to *push* against, out there in space?" It is possible to explain. On the other hand, if his approach is, "Nobody has ever been to the Moon; the audiences won't know the difference," it is impossible to explain anything to him; he does not know and does not want to know.

We had plenty of both sorts of trouble.

That the picture did not end up as a piece of fantasy, having only a comic-book relation to real science-fiction, can be attributed almost entirely to the integrity and good taste of Irving Pichel, the director. Mr. Pichel is not a scientist, but he is intelligent and honest. He believed what Mr. [Chesley] Bonestell and I told him and saw to it that what went on the screen was as accurate as budget and ingenuity would permit.

By the time the picture was being shot the entire company—actors, grips, cameramen, office people—became imbued with enthusiasm for producing a picture which would be scientifically acceptable as well as a box office success. Willy Ley's *Rockets and Space Travel* was read by dozens of people in the company. Bonestell and Ley's *Conquest of Space* was published about then and enjoyed a brisk sale among us. Waits between takes were filled by discussions of theory and future prospects of interplanetary travel.

As shooting progressed we began to be deluged with visitors of technical background—guided missiles men, astronomers, rocket engineers, aircraft engineers. The company, seeing that their work was being taken seriously by technical specialists, took pride in turning out an authentic job. There were no more remarks of "What difference does it make?"

Which brings us to the third hurdle—the *technical* difficulties of filming a spaceship picture.

The best way to photograph space flight convincingly would be to raise a few hundred million dollars, get together a scientific and engineering staff of the caliber used to make the A-bomb, take over the facilities of General Electric, White Sands, and Douglas Aircraft, and *build* a spaceship.

Then go along and photograph what happens.

We had to use the second-best method—which meant that every shot, save for a few before takeoff from Earth, had to involve special effects, trick photography, unheard of lighting problems. All this is expensive and causes business managers to grow stomach ulcers. In the ordinary motion picture there may be a scene or two with special effects; this picture had to be *all* special effects, most of them never before tried.

If you have not yet seen the picture, I suggest that you do not read further until after you have seen it; in this case it is more fun to be fooled. Then, if you want to look for special effects, you can go back and see the picture again. (Adv.)

The Moon is airless, subject only to one-sixth gravity, bathed in undiluted sunlight, covered with black sky through which shine brilliant stars, undimmed by cloud or smog. It is a place of magnificent distances and towering mountains.

A sound stage is usually about thirty feet high, and perhaps a hundred and fifty feet long. Gravity is Earth normal. It is filled with cigarette smoke, arc light fog, and dust—not to mention more than a hundred technicians.

Problem: to photograph *in a sound*

stage men making a rocket landing on the Moon, exploring its endless vistas, moving and jumping under its light gravity. Do this in Technicolor, which adds a sheaf of new problems, not the least of which is the effect of extra hot lights on men wearing spacesuits.

The quick answer is that it can't be done.

A second answer is to go on location, pick a likely stretch of desert, remove by hand all trace of vegetation, and shoot the "real" thing. Wait a minute; how about that black and star-studded sky? Fake it—use special effects. Sorry; once blue sky is on Technicolor emulsion it is there to stay. With black and white there are ways, but not with color.[1]

So we are back on the sound stage and we *have* to shoot it there. Vacuum clear atmosphere? No smoking—hard to enforce—high speed on all blowers, be resigned to throwing away some footage, and leave the big doors open—which lets in noise and ruins the sound track. Very well, we must dub in the sound—and up go the costs—but the air *must* be clear.

Low gravity and tremendous leaps—piano wire, of course—but did you ever try to wire a man who is wearing a spacesuit? The wires have to get inside that suit at several points, producing the effect a nail has on a tire, i.e., a man wearing a pressurized suit cannot be suspended on wires. So inflation of suits must be replaced by padding, at least during wired shots. But a padded suit does not wrinkle the same way a pressurized suit does and the difference shows. Furthermore, the zippered openings for the wires can be seen. Still worse, if inflation is to be faked with padding, how are we to show them putting on their suits?

That sobbing in the background comes from the technical adviser—yours truly—who had hoped not only to have authentic pressure suits but had expected to be able to cool the actors under the lights by the expansion of gas from their air bottles. Now they must wear lamb's wool padding and will have no self-contained source of breathing air, a situation roughly equivalent to doing heavy work at noon in desert summer, in a fur coat while wearing a bucket over your head.

Actors are a hardy breed. They did it.

To get around the shortcomings of padded suits we worked in an "establishing scene" in which the suits were shown to be of two parts, an outer chafing suit and an inner pressure suit. This makes sense; deep-sea divers often use chafing suits over their pressure suits, particularly when working around coral. The relationship is that of an automobile tire carcass to the inner tube. The outer part takes the beating and the inner part holds the pressure. It is good engineering and we present this new wrinkle in spacesuits without apology. *The first men actually to walk the rugged floor of the Moon and to climb its sharp peaks, will, if they are wise, use the same device.*[2]

So we padded for wire tricks and used air pressure at other times. Try to see when and where we switched. I could not tell—and I saw the scenes being shot.

Now for that lunar landscape which has to be compressed into a sound stage—I had selected the crater Aristarchus. Chesley Bonestell did not like Aristarchus; it did not have the shape he wanted, nor the height of crater wall, nor the distance to apparent horizon. Mr. Bonestell knows more about the surface appearance of the Moon than any other living man; he searched around and found one he liked—the crater Harpalus, in high northern latitude, facing the Earth. High latitude was necessary so that the Earth would appear down near the horizon where the camera could see it and still pick up some lunar landscape; northern latitude was preferred so that the Earth would appear in the conventional and recognizable school-room-globe attitude.[3]

Having selected it, Mr. Bonestell made a model of it on his dining room table, using beaver board, plasticine, tissue paper, paint, anything at hand. He then made a pinhole photograph from its center—Wait; let's list the stages:

1. A Mount Wilson observatory photograph.
2. Bonestell's tabletop model.
3. A pinhole panorama.
4. A large blowup.
5. A Bonestell oil painting, in his exact detail, about twenty feet long and two feet high, in perspective as seen from the exit of the rocket, one hundred fifteen feet above the lunar surface.
6. A blown-up photograph, about three feet high, of this painting.
7. A scenic painting, about four feet high, based on this photograph and matching the Bonestell colors, but with the perspective geometrically changed to bring the observer down to the lunar floor.
8. A scenic backing, twenty feet high, to go all around a sound stage, based on the one above, but with the perspective distorted to allow for the fact that sound stages are oblong.
9. A floor for the sound stage, curved up to bring the foreground of the scene into correct perspective with the backing.
10. A second backdrop of black velvet and "stars."

The result . . . looks like a Bonestell painting because it *is* a Bonestell painting—in the same sense that a Michelangelo mural is still the work of the master even though a dozen of the master's pupils may have wielded the brushes.

Every item went through similar stages. I was amazed at the thoroughness of preliminary study made by the art department—Ernest Fegte and Jerry Pycha—before any item was built to be photographed. Take the control room of the spaceship. This compartment was shaped like the frustum [base] of a cone and was located near the nose of spaceship *Luna*. It contained four acceleration couches, instruments and controls of many sorts, an airplane pilot's seat with controls for landing on earth, radar screens, portholes, and a hatch to the air lock—an incredibly crowded and complicated set. (To the motion-picture business this was merely a "set," a place where actors would be photographed

[1]Today, over a quarter century later, the same technical problems exist in trying to reproduce the stark background of an airless planet (or moon) on film. Even though there is an optical process (*rotoscoping*) through which a black sky can be super-imposed over a blue Technicolor emulsion, the frame-by-frame cost is prohibitive.

[2]Such a suit was not developed until over a decade later for Project Mercury. Astronauts now wear a suit composed of nine layers, divided into two basic categories: inner layers providing for biological needs and pressurization and outer layers with the essential function of protection.

[3]Mr. Bonestell's reasoning here is flawless. For the first actual lunar landing, however, NASA scientists did not choose a location that far north nor did they land in a crater. They landed in the Sea of Tranquility (a comparatively level area) just north of the Moon's equator. Of course, how the earth appeared from the base was not one of their considerations.

This was the spaceship that combined American industry built. In the film, the government almost stopped the launch, not because of any real danger, but because it feared public opinion against the trailblazing project.

while speaking lines.)[4]

To add to the complications the actors would sometimes read their lines while hanging upside down in midair in this set, or walking up one of its vertical walls. Add that the space was completely enclosed, about as small as an elevator cage, and had to contain a Technicolor sound camera housed in its huge soundproof box—called a "blimp," heaven knows why.

I made some rough sketches. Chesley Bonestell translated these into smooth drawings, adding in his own extensive knowledge of spaceships. The miniature shop made a model which was studied by the director, the art director, and the cameraman, who promptly tore it to bits. It wouldn't do at all; the action could not be photographed, could not even be seen, save by an Arcturian Bug-Eyed Monster with eyes arranged around a spherical 360°.

So the miniature shop made another model, to suit photographic requirements.

So I tore that one apart. I swore that I wouldn't be found dead around a so-called spaceship control room arranged in any such fashion; what were we making? A comic strip?

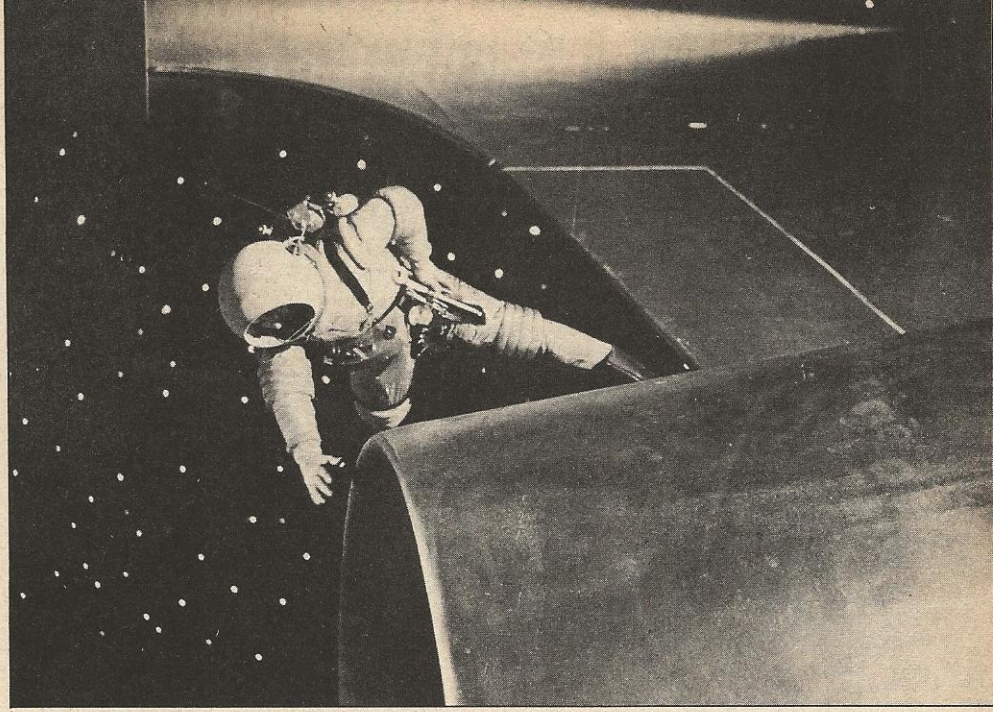
So the miniature shop made a third model.

And a fourth.

Finally we were all satisfied. The result, as you see it on the screen, is a control room which might very well be used as a pattern for the ship which will actually make the trip some day, provided the ship is intended for a four-man crew. It is a proper piece of economical functional design, which could do what it is meant to do.

But it has the unique virtue that it can be photographed as a motion-picture set.

A writer—a fiction writer, I mean,not a screen writer—is never bothered by such considerations. He can play a dramatic scene inside a barrel quite as well as in Grand Central Station. His mind's eye looks in any direction, at any distance, with no transition troubles and no jerkiness. He can explain anything which is not clear. But in motion pictures the camera has got to *see* what is going on and must see it in such a fashion that the audience is not even aware of the camera, or the illusion is lost. The camera must see all that it needs to see to achieve a single emotional effect from a single angle, without bobbing back and forth, or indulging in awkward, ill-timed cuts. This problem is always present in motion-picture photography; it was simply exceptionally acute in the control room scenes. To solve it all was a real *tour de force*; the director of photography, Lionel Lindon, aged several years before we got out of that electronic Iron Maiden.



The breathtaking action in space, on the way to the Moon, needed little dialogue to explain the science involved since the audience had already been given a basic class in space dynamics via Woody Woodpecker animation.

In addition to arranging the interior for camera angles it was necessary to get the camera *to* the selected angles—in this enclosed space. To accomplish this, every panel in the control room was made removable—"wild" they call it—so that the camera could stick in its snout and so that lights could be rigged. Top and bottom and all its sides—it came apart like a piece of Meccano. This meant building of steel instead of the cheap beaver-board-and-wood frauds usually photographed in Hollywood. The control room was actually stronger and heavier than a real spaceship control room would be. Up went the costs again.

Even with the set entirely "wild" it took much, much longer to shift from one angle to another than it does on a normal movie set, as those panels had to be bolted and unbolted, heavy lights had to be rigged and unrigged—and the costs go sky high. You can figure overhead in a sound stage at about a thousand dollars an *hour*, so, when in the movie you see the pilot turn his head and speak to someone, then glance down at his instruments, whereupon the camera also glances down to let you see what he is talking about, remember how much time and planning and money it took to let you glance at the instrument board. This will help to show why motion-picture theaters sell pop corn to break even—and why science-fiction pictures are not made every day. Realism is confoundedly expensive.

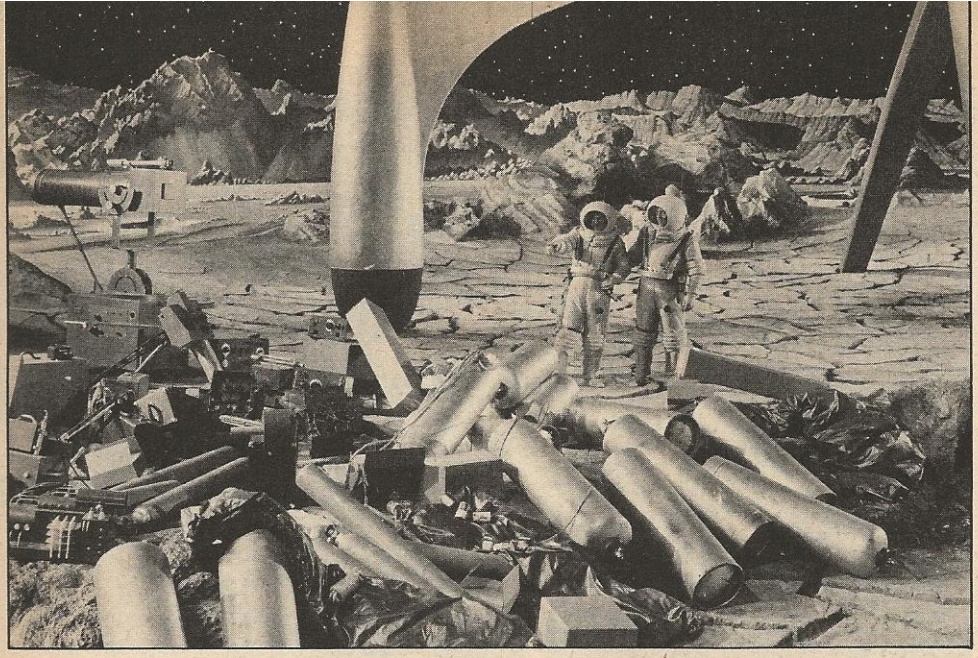
Nor did the costs and the headaches with the control room stop there. As every reader of *Astounding* knows, when a rocket ship is not blasting, everything in it floats free—"free fall." Men float around—which meant piano wires inside that claustrophobic little closet. It was necessary at one point to show a man floating out from his acceleration couch and into the center of the room. Very well; unbolt a panel to let in the wires. Wups! while a spaceship in space has no "up" or "down," sound stage three on Las Palmas Avenue in Hollywood certainly does have; supporting wires must run vertically—see Isaac Newton. To float the man out of the tight little space he was in would require the wires to turn a corner. Now we needed a Hindu fakir capable of the Indian rope trick.

The special effects man, Lee Zavitz, has been doing impossible tricks for years. He turned the entire set, tons of steel, on its side and pulled the actor out in what would normally be a horizontal direction. Easy!

So easy that the art department had to design double gimbals capable of housing the entire set, engineer it, have it built of structural steel, have it assembled inside a sound stage since it was too big to go through the truck doors. Machinery had to be designed and installed to turn the unwieldy thing. Nothing like it had ever been seen in Hollywood, but it did enable a man to float out from a confined space and, later, to walk around the sides of the control room with "magnetic" boots.

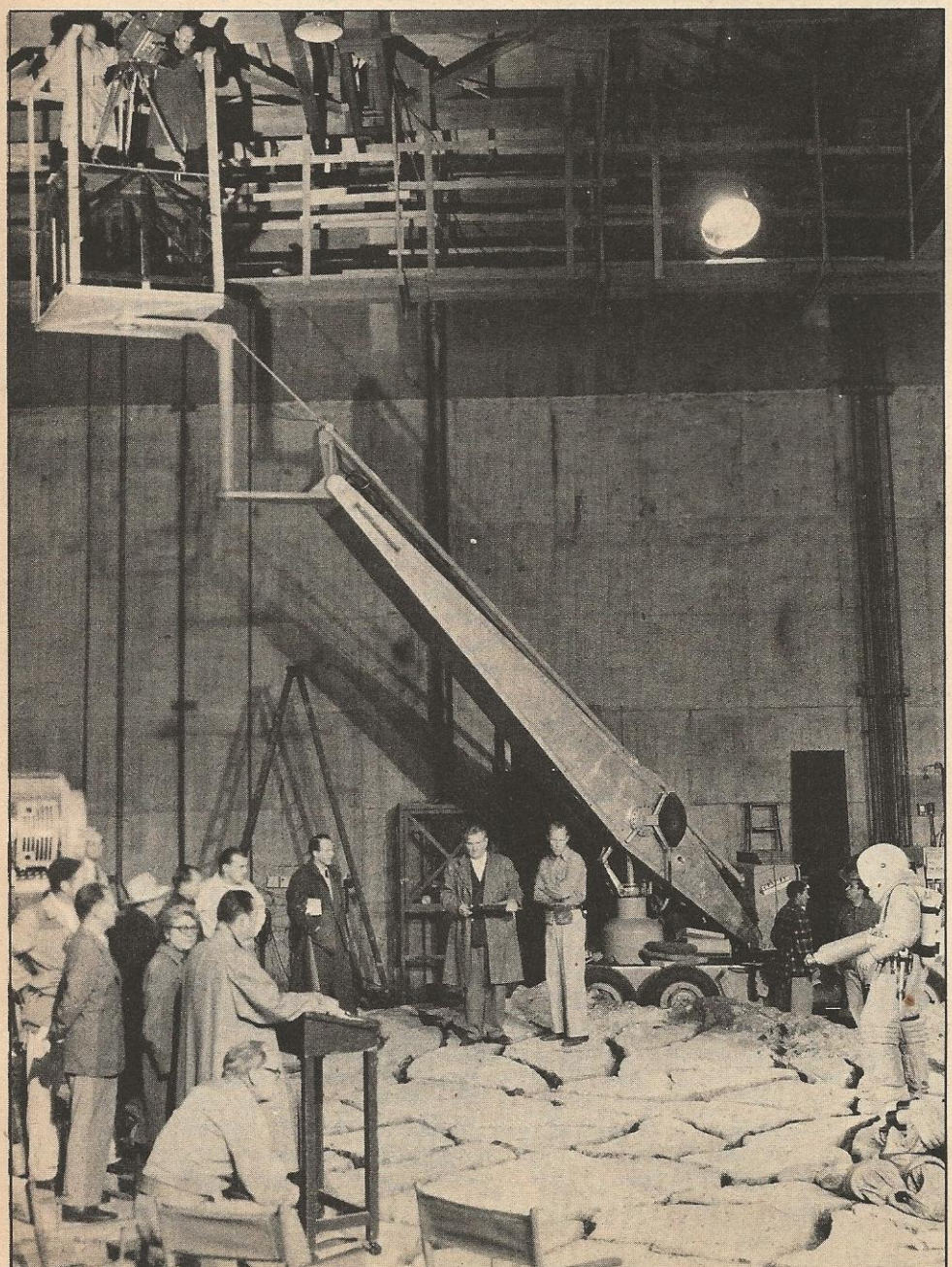
This double-gimbals rig, three stories high, put the control room set high in the air, so the carpenters had to build platforms around it and the camera had

[4]Aside from the separate acceleration couches and the relative "roominess" of the control room, there is an amazing similarity of design between the final control room set and the Apollo orbiter. (The use of such large areas is compensated for by the rocket's fuel source: atomic power. This superior power source also explains why it wasn't necessary to use a "staged" rocket with three separate thrusting systems.)



Above: The overweight ship is stripped to allow for lunar liftoff, creating the most beautiful pile of junk ever seen. Notice skillful blending of set into backdrop.

Below: An incredibly rare photo showing the tricky Moonsurface extended to walls of the studio. Here, camera creates point of view from the cabin of the spaceship.



to be mounted on a giant boom—one so huge, so fancy, and so expensive that Cecil B. de Mille came over to inspect it. The camera itself had to be mounted in gimbals before it was placed on the boom, so that it might turn with the set—or the other way, for some special effects. This meant removing its soundproof blimp, which meant dubbing the sound track.

("Who cares? It's only money." Don't say that in the presence of the business manager; he's not feeling well.)

This was not the end of the control room tricks. Some of the dodges were obvious, such as making dial needles go around, lights blink on and off, television and radar screens light up—obvious, but tedious and sometimes difficult. Producing the effect of a ship blasting off at six gravities requires something more than sound track of a rocket blast, as the men each weigh over a thousand pounds during blast. Lee Zavitz and his crew built large inflated bladders into each acceleration couch. Whenever the jet was "fired" these bladders would be suddenly deflated and the actors would be "crushed" down into their cushions.

A thousand-pounds weight compresses the man as well as his mattress, which will show, of course, in his features. The makeup man fitted each actor with a thin membrane, glued to his face, to which a yoke could be rigged back of his neck. From the yoke a lever sequence reaching out of the scene permitted the man's features to be drawn back by the "terrible" acceleration. Part of what you see is acting by some fine actors, Dick Wesson, Warner Anderson, Tom Powers, John Archer; part was a Rube Goldberg trick.

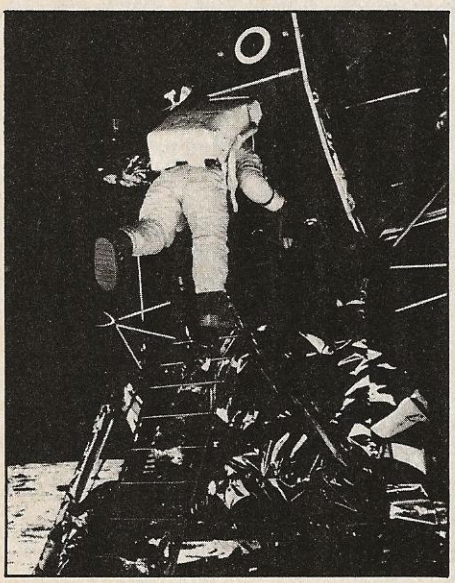
The air suddenly escaping from the bladders produced a sound like that of a mournful cow, thus requiring more dubbing of sound track. The air had to be returned to the bladders with equal suddenness when the jet cut off, which required a compressed air system more complicated than that used by a service station.

The sets abounded in compressed air and hydraulic and electrical systems to make various gadgets work—to cycle the air lock doors, to rig out the exit ladder, to make the instrument board work—all designed by Zavitz. Lee Zavitz is the man who "burned Atlanta" in *Gone With the Wind*, forty acres of real fire, hundreds of actors, and not a man hurt. I saw him stumped just once in this film, through no fault of his. He was controlling an explosion following a rocket crash. It was being done full size, out on the Mojave Desert, and the camera angle stretched over miles of real desert. From a jeep back of the camera Zavitz was cueing the special effects by radio. In the mid-

(Continued on page 54)

Above: Colored spacesuits differentiate crew, add life to drab landscape, and provide perfect subject for Technicolor camera.

Photo: NASA



Right: " . . . in the name of the United States of America, I take possession of this planet, on behalf and for the benefit of all mankind." Above: 20 years later . . . reality.

The Cast & Creative Crew Behind THE FANTASTIC JOURNEY

A Science Fantasy

On an uncharted island, somewhere in that area of the Caribbean known as the Bermuda Triangle, time and space have warped, bringing together a strange band of adventurers and forcing them to embark on a Fantastic Journey!

By WILLIAM IRVINE

Is *The Fantastic Journey* a new television series for science-fiction enthusiasts?

The first show, which aired on NBC February 3rd, introduced a small group embarking together, for various reasons, into the Caribbean—in the area of the Bermuda Triangle. En route to their destinations they encounter a mysterious green cloud that begins to pursue them, and then a catastrophic storm that capsizes the boat. The group ultimately gets washed ashore on a strange and unknown land mass and they soon learn that they are unable to leave it by sea.

Their situation turned out to be far stranger than they first thought when they encountered Varian, an Earthman from the year 2230 whose space vehicle crashed on this strange land mass, making it impossible for him to return to his own time. (A time that Varian describes as being devoid of wars, violence and problems.) Varian decides to join them and help them return to their proper time period.

On their bizarre journey they unknowingly cross into another strange dimension where they meet up with a sophisticated race of people known as Atlantians, who prove to be a blessing to three members of the group whom they assist in returning to their proper time—and a danger to those remaining. On their way through Atlantium, they are joined by Liana (a half-human, half-alien woman of striking beauty) for their fantastic journey.

Hence, we are left with a core group that includes Varian, a twenty-third century earthman played by Jared Martin; Liana, a young woman who was living with the survivors of the lost continent of Atlantis, played by Katie Saylor; and two twentieth century people—Dr. Fred Walters, a physician, played by Carl Franklin, and a fourteen-year-old boy, Scott Jordan, played by Ike Eisenmann.

In the third episode, Roddy McDowall was introduced to the group in the character of Jonathan Willoway. Willoway was an eccentric scientist in the 1960 s who chose to escape from a scientific community that rejected his ideas and principles and to lead a life of seclusion. While he was traveling near the Japan Sea, his plane was overcome by a *mysterious green cloud* and it crashed on an unidentifiable and strange land mass where he discovered that past, present and future time periods co-existed!

Willoway set out on his journey to return to the 1960 s and encountered a group of green people and their android colony. Instead of continuing his journey, he took over the androids and drove out the green people. Varian and his group arrived on the scene and assisted the green people in recovering their androids and driving Willoway out.

After being so rudely thrust out of his mechanized Eden, Willoway was informed by Varian that the history books

In the third episode of the series, "Beyond the Mountain," Roddy McDowall was introduced as Jonathan Willoway, a scientist from the 1960s. He had usurped control of an android colony from their peaceful green owners. Roddy serves as counterpoint to the group, a role similar to that played by Jonathan Harris on *Lost in Space*.

of the early twenty-first century revealed a change in scientific attitudes, including his own, and that his principles were as sound as they were important for establishing peace and understanding for future generations. *And,* twenty years after his disappearance, a "Jonathan Willoway Award" had been established!

Willoway then chose to join the group—thus establishing Roddy McDowall as a regular member of the show's cast.

Before this fictional band of five could be brought together on that strange island, someone had to have the idea; someone had to take that idea, refine it, and sell it. In this case, that person was Bruce Lansbury—*The Fantastic Journey*'s executive producer. Lansbury is not new to television or to film. Among the many shows for which he has had management responsibility were *Wild, Wild West* and *Mission: Impossible,* both of which he produced for three seasons.

Photos: © NBC

Carl Franklin, Ike Eisenmann, Jared Martin, and Katie Saylor pose in front of the set for the second episode, "Atlantium." It is actually a real building, the Bona Venture Hotel in Los Angeles. It is here that they find Liana (Katie Saylor), daughter of an extraterrestrial mother and an Atlantian father. The survivors of Atlantis are all within the futuristic complex. It is controlled now by a disembodied brain that draws its strength by sapping people of their life force. Before it attempted to consume Scott (Ike Eisenmann), it returned his family to their proper place in time.

In "Vortex," the series premiere, Jared Martin was disguised as an Arawak Indian. He's actually a 23rd-century Earthman. The tuning fork-type device concentrates his will and focuses it in a kind of sonic manipulation of matter. Here he used it to heal Leif Ericson's broken arm.

How did *The Fantastic Journey* evolve? Lansbury explained: "The networks were looking for action-adventure that didn't require violence. And there was interest in a science-fiction show.

"The *concept* for this show came out of an idea I have had for a number of years. I converted it by using the Bermuda Triangle as the doorway into the kind of show in which you can do any kind of story. They liked the idea very much, but when we did the pilot—it dealt with a 16th Century privateer—we discovered, in the testing, that people found it all too familiar. People were looking forward to the future and to the unknown, so in the first episode we implanted the first part of the second episode—Atlantium.

"Also, in that first episode, we felt the cast wasn't right, so three of our initial cast members took a time-trip back to their own time; and in succeeding episodes we did what we thought would create a better balance by picking up a girl from Atlantium—that's Liana played by Katie Saylor—and Roddy McDowall who plays the dissident Willoway."

Why Roddy?

"The reason we wanted Roddy was the character himself. We needed a kind of dissident, a mischief maker that

Photos: © NBC

Above Right: An SOS carved in the sand is a good thought but only a futile gesture by Scott and his companions, after they've been shipwrecked in the Bermuda Triangle. Above: When Scott discovered his father missing one morning, he, Varian and Fred set off to follow his trail and arrived at the fabulous city of Atlantium. Right: Scott reads a note from his father, left for him with the Atlantians. It says that they have returned him to his own time period.

would play against the family, as we had structured it. The actor who seemed to answer those requisites best was Roddy. And it worked out beautifuly because he creates the kind of character who might push in one direction while everyone else is pushing in another. So it's an amicable abrasion between the characters and it's spice and condiment! Roddy's unusual—one of a kind!"

Lansbury is careful to differentiate between science fiction and science fantasy—calling *The Fantastic Journey* science fantasy because "science fiction requires a sort of conformity to the rules and conventions of science fiction, which are well known and emerge out of a projection of what is plausible based on our current technology and knowledge. In science fantasy you do what you damn well please with what you know about. We don't pretend to be as conforming as,say ,*Star Trek*.

Speaking of *Star Trek*, does Lansbury see any similarities?

"We hope to get into the same kind of material. What we do, rather than coming down on a different planet, is skip to a different situation each week by crossing through various times. The trick in this series is to devise a variety of stories, rather than do variations on the same stories every week. I think one of the differences in our show is that we have three people from our own time engaged in futuristic adventures. These three people afford the audience an identification link that you don't get in other type SF films, where everybody's dressed in a funny suit and everyone's talking in the jargon of the future, yet we are pretty futuristic . . ."

Unlike most television series, *The Fantastic Journey* has no permanent set, uses different costumes each episode and a multitude of special effects. Is this a problem?

"Nothing so far that we haven't been able to handle," says Lansbury. "But it is a loaded show compared to any other show on television. Any show that's as loaded as we are with optical effects and special effects—well, you always have problems. Like the brain on the Atlantium show—it was made of a rubber substance and kept getting holes in it, so instead of getting bigger and bigger—it started to deflate.

"This is really a show of the imagination. When the writer puts down something like that, it's not something that has been invented, so you have to invent it. . . . If it's an ordinary police franchise show in which they fire a gun—well that's easy. Every effects-man in the business has done *that* many times over. But you say 'Give me a brain that's alternatingly inflating and deflating,' that takes a novel kind of imagination; it takes skill, and we have that too. We create machines that have no bearing on anything that's been done before and they have to be invented and their subtleties perceived—and that makes it a difficult show.

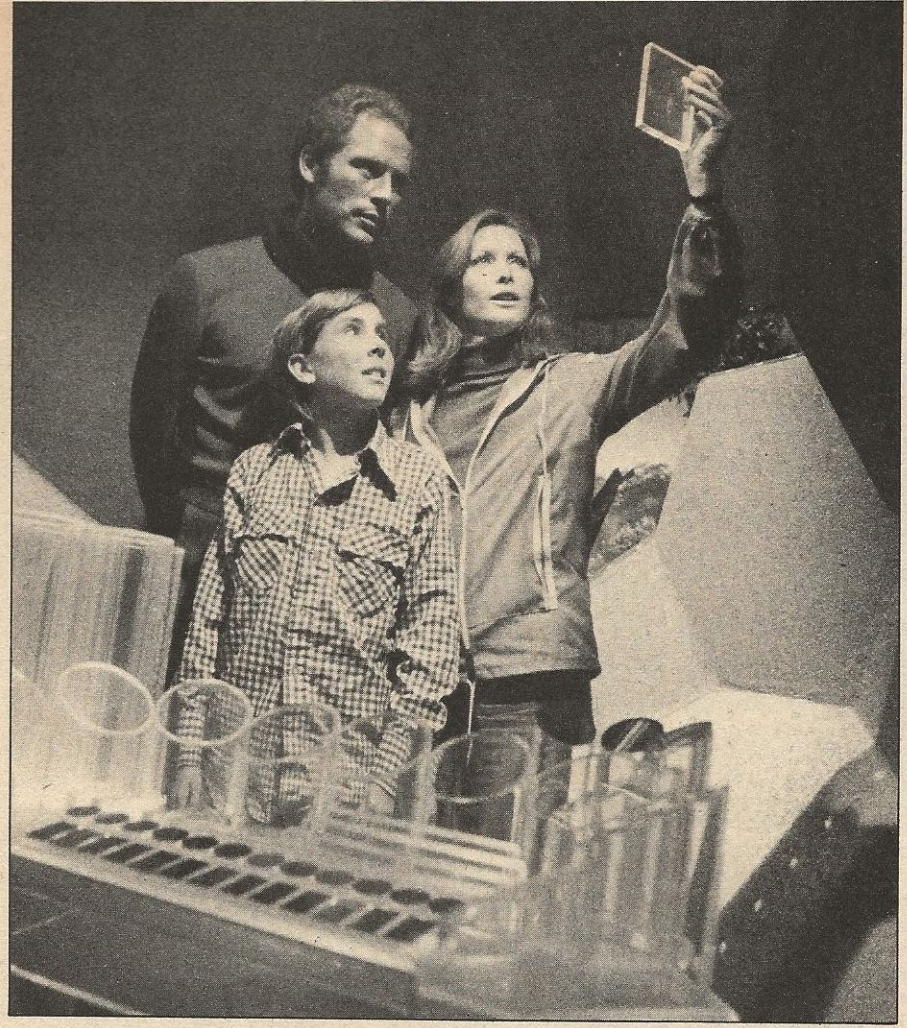
"You have to rely on every department to fulfill its function under the most trying circumstances; that includes wardrobe where we have to have a new wardrobe every week. We also have a set problem because we don't operate out of a hospital or a precinct headquarters, or *anything*.."

Lansbury's closing comment was a request: "If STARLOG's readership is hip to the show, I'd appreciate their telling the network. Mail is *always* very helpful!"

That's the executive producer's side of the show. What about the actors?

The most famous and intriguing of the actors on *The Fantastic Journey* is unquestionably Roddy McDowall. Over eighty feature films, dozens of television shows and theater—does Roddy really *need* an introduction?

What does he think about working on a science fiction/fantasy series? "As far as I'm concerned, it just boils down to a style that is actable. It's simply a very interesting arena, it isn't because it's science fiction—sorry about that!



Varian shows the workings of his crippled space craft to Scott and guest star Susan Howard. He left the ship behind when he decided to join Scott and the others in their search for a way out of the time-warp trap.

"For instance in *The Apes,* I never thought about those characters as anything but another aspect of a given human being of given circumstance. The same in relation with this project. The character I play is just a man in this certain arena, reacting to it with as much normalcy at the time as possible. The fact that the science fiction makes it bizarre—that's interesting; then it isn't just an everyday situation.

"One of the things, I guess, about science fiction is that it appears interesting because it's larger-than-life. It's like doing a fairy tale in a larger-than-life situation. The whole idea is fascinating, the idea of people walking around in different time zones—a rather bizarre arena! Much more interesting than sitting around a table in the same house. It's titillating!

"Now, of course, it can be misused or it can be expanded more and more—depending if one is given the chance to go on, and it takes time for any series to find its footing. That's always forgotten, not only by the public, but also by the people who put the shows on the air.

"As time goes on (if one is permitted the time to go on) you'll see enormous changes in the way these five people relate to each other. Each thing that comes up gives them more time to get further interplay with each other. And I think that the story editors have wonderful ideas, grand ideas. Hopefully we'll get to see those dramatized!"

Roddy wouldn't really get into where his head is about the part. He said it's fun and that he likes the character, but beyond that he said, "I think that's a sanctuary. That is the secret of your part: what do you really think about this part? I wouldn't tell you, because I'm going through it. It's an invasion of a sanctuary. It's an intangible. I know what it's about but I don't want to intellectualize it because to do so would be to ground it. And it's hard to talk about work, especially when it gets put on the printed page because it all comes out strictly *rubbish.*

"When one starts a movie or a play and gets interviewed about what their part's about—I become very silent. I do not want to say because one is growing in it all the time. And, ultimately the only thing that matters is how it effects those people who are watching. They might have a totally different reaction to it than I tried to create.

"It is what it is," says Roddy, explaining that his role is what people perceive it to be.

Roddy and the rest of the adult cast are not really *into* science fiction, per se; however, the youngest member of the cast is. That's Ike Eisenmann, an attractive, adorable and bright young man of fourteen. Ike was born in Houston, Texas and moved to California when he was eight years old. He's been acting ever since.

In response to a question about whether or not he is interested in science fiction, Ike said: "Yeah! That's all I read . . . usually, science fiction and *National Geographic.* My favorite author is Isaac Asimov, and I'm reading *The Foundation* right now. I read *Fantastic Voyage, The Martian Way, Caves of Steel,* and now this. Actually I'm trying to find his best one.

"I've read science fiction for a long time. I saw *2001: A Space Odyssey* when I was seven years old—and it gave me the neatest feeling. Then I started reading science fiction, and it's even better reading a book! The way Asimov writes . . . he's very descriptive and gets off on different subjects, then goes back to the main idea and explains what's happening in detail. He'll give you a fairly decent scientific explanation for what's happening. It may not mean anything to scientists—but it sure sounds good. It's difficult to do that on the screen."

Ike left Asimov behind and moved to a discussion of the concept of *The Fantastic Journey,* saying that it was difficult to explain the Bermuda Triangle premise and visually explain the time zones. Then he continued: "That's why Jared had to get in there and do that long scene about the honeycomb, and all that stuff—which was boring. They had to do it, 'cause, if not, everybody would have said, 'Well, what's happening?' And so the first show, the pilot, was a bit boring, but it did tell what was happening and give you enough of an idea about it all to watch with an understanding.

"The basic idea was originally to have this land be cut in half by a time zone where one side would be 1600 and the other would be 2000, and if one passed through the time zone they'd be in the same place but in a different time. They're not doing that anymore. Now they go into an entirely different geographic setting by passing through the time zone.

"It's different, it's futuristic and it's something I'd want to see. It's more *fun* actually! Different things each show, special effects and that kind of stuff—I like that. And different futuristic sets and interesting places to get to see, like the architecture of different buildings such as the Bona Venture Hotel, which is futuristic and not many people know

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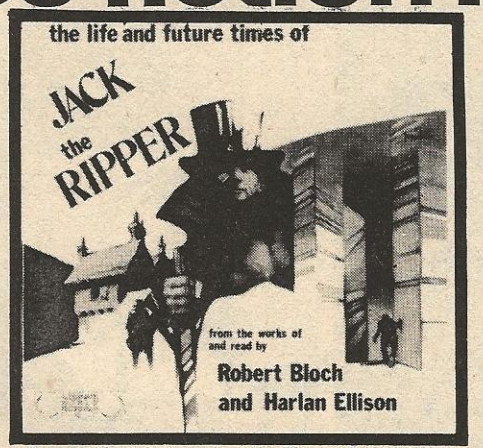

figure of the infamous Jack the Ripper. Penetrating insights into the *Violent Man of Today* and our culture's all too prevalent tendency to revere and deify its monsters such as Al Capone, Billy the Kid, Adolph Hitler and Charles Manson.

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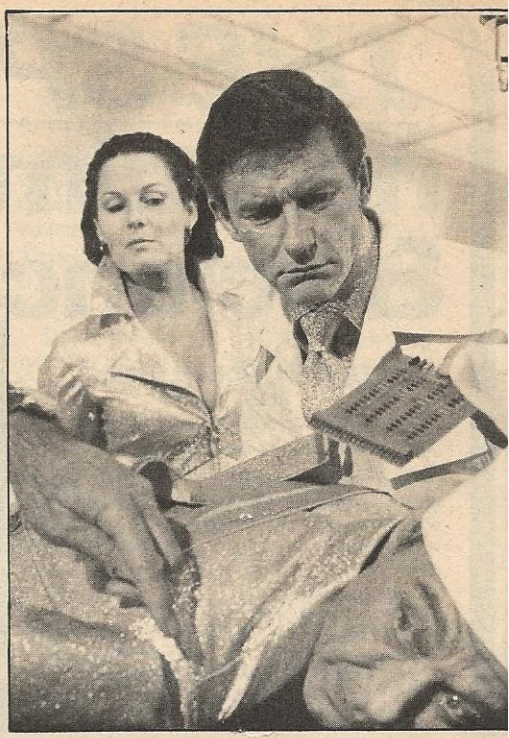


Left: Varian, Fred and Liana are menaced by the "Children of the Gods." The adults in their society died in conflict with another city, leaving the children to fend for themselves. They now distrust all "elders." Above: Willoway tries to repair his android chef (Lester Fletcher) while android Marj Dusay looks on. As a scientist, he was able to reprogram all of the androids to respond to his commands.

about it because it's not open yet."

Enthusiasm about the show and the parts each regular cast member played seemed to be a common denominator.

Carl Franklin was unique in that he was willing to talk a little bit about his character's background. "The guy is supposed to come from a ghetto, worked his way through college. He is an intelligent person—and a fiercely independent person. He has a sense of humor and is a guy that can laugh at himself. I like the part. It's not a typical black acting part, and it gives me the opportunity to play some social values and at the same time, play it honestly.

"The difference between doing something like this and doing a contemporary show (crime shows, westerns and things more common on the television market) is that everybody knows the whole typical format, the whole set; they know the stereotypes—they know everything—whereas, when you're talking about something futurist, that's fantasy. You have to create that atmosphere for them. You've got to make them *believe* that place. More than anything else, they've got to get a *feel* of the place that you're talking about. That's hard to do on television because you don't really have the time.

"The problem is to be able to deal with things that are bigger than life or things that have nothing to do with life as we know it—to make it real and to make it common; but not to be *too* relaxed about it, you know? To make it a real fear, a real situation—that's a problem."

Is Franklin into science fiction at all?

"No, no I'm not. I used to watch *Star Trek* when it was on re-runs. I never watched it when it was popular. I watched it simply because when I was going to school at Berkeley there was a whole cult—the *Star Trek* group. And if you wanted to go out with a lady, you watched *Star Trek!*

"There are kind of glaring similarities between *Star Trek* and *The Fantastic Journey*, you know. I think that *Star Trek* chemistry between people is something very special . . . some of the things that happen between people in the cast have that *Star Trekian* kind of thing. Any time you start dealing with more than one personality you've got to take advantage of the differences.

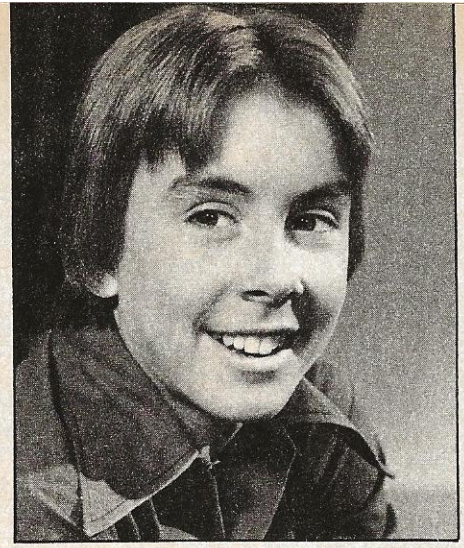
"I just think that *Star Trek* was one of those series where everyone turned together. The production value was of a certain level, of a really high level and the kind of acting gelled with the production value. It's a formula that will work, and we're getting to that formula."

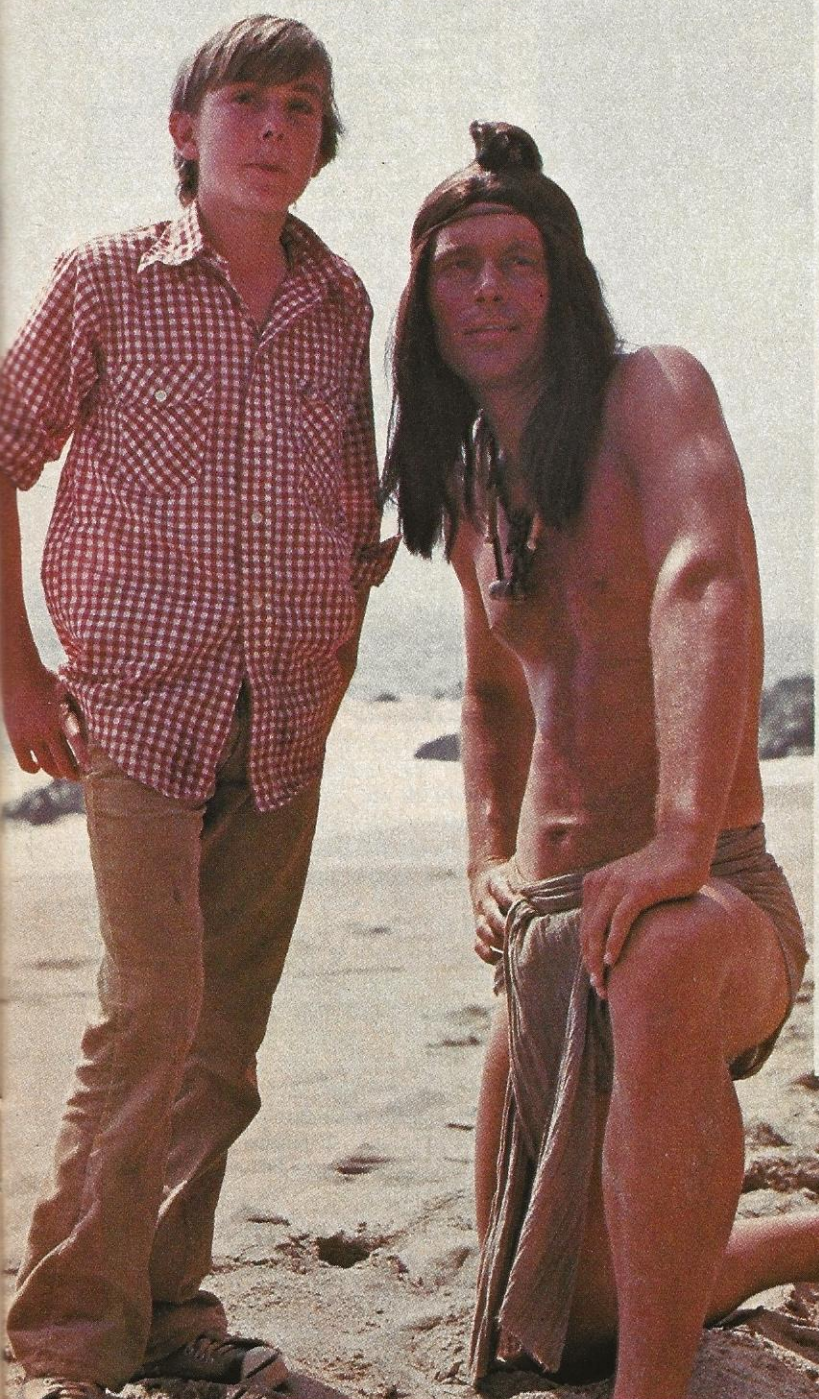
If you had a chance to watch the cast, crew and production people—you'd know that they already have that "formula." If you happened to see the television series *Caribe*, you would have seen Carl Franklin co-starring with Stacy Keach. Instead of Stacy, this time it is Katie Saylor, whom you may have seen on a number of television shows or in one of her movies, which include *Super Van, The Godfather,* and *Loves of a Cop.*

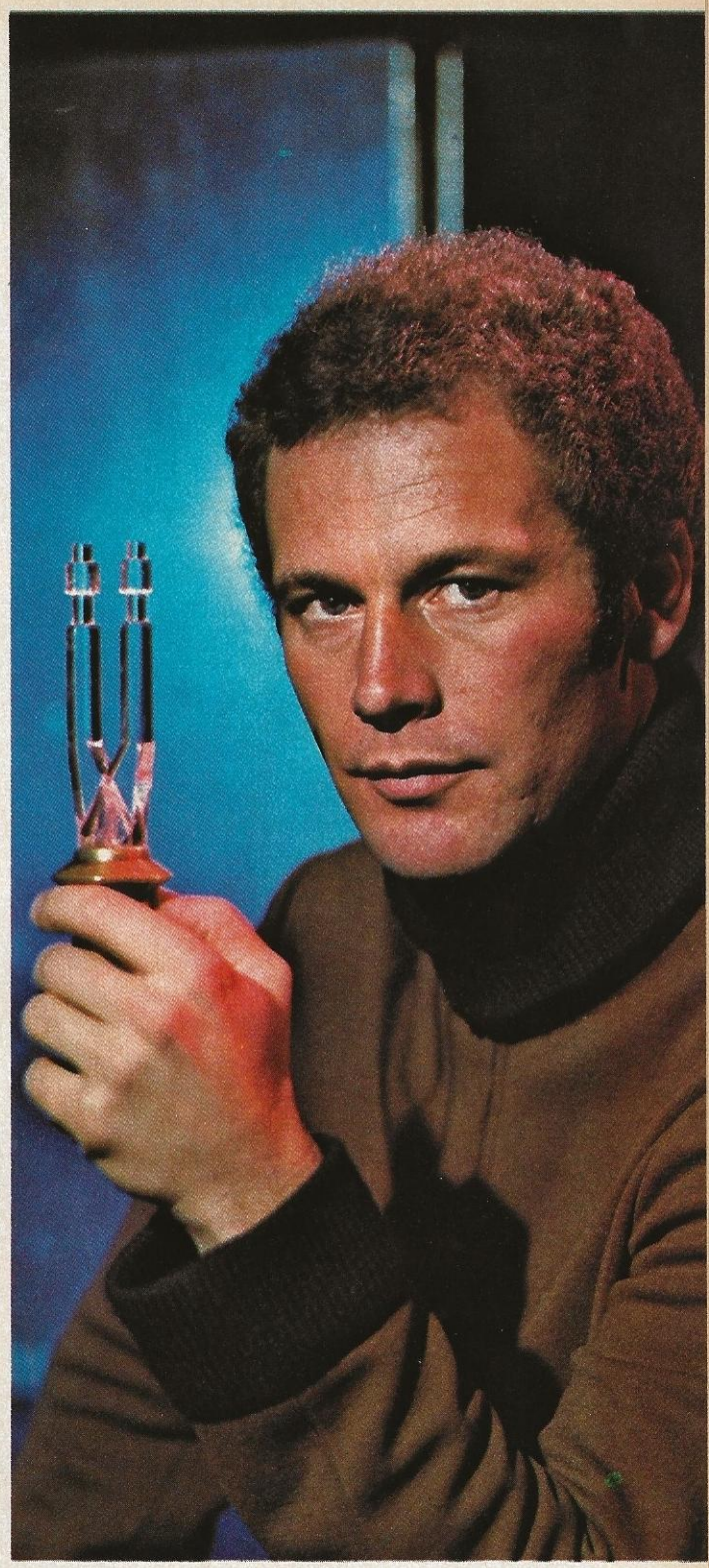
Speaking about her role in *The Fantastic Journey,* Katie said, rather facetiously, "The thing that I find so amazing is that my biggest catches in the business seem to be parts that are a little bit bizarre, not just your everyday part. Why . . . do you think I'm weird????"

Is acting for Katie in this arena any different than in a more traditional type role?

"Definitely, in that it is far more restricted. The medium of television is restricted to begin with; you don't have the time to be that creative, not the way you do in film. In a science-fiction series there are rules and regulations that you must go by. I know that Liana, for instance, being half alien and half terrestial, could not use certain lingo that Katie Saylor would use. There's a part in one script where they come across an ocean and Liana says 'What's an







Jared Martin has previously guest-starred on several TV series, including *The Rookies, Switch,* and *Columbo,* usually in the role of a villain. Now he is Varian, a citizen of the 23rd century who had the misfortune of being caught in the mysterious time-warp in the Bermuda Triangle.

Left and inset: Ike Eisenmann & Jared Martin (Indian make-up) form the hub of the *Journeys* family of characters. Ike is a veteran actor at the age of fourteen. In addition to a variety of TV appearances, he starred in Disney's *Escape to Witch Mountain*.

Liana and two female androids from "Beyond the Mountain." Liana's right time period is circa 30,000 B.C. At that time, her alien mother had come to Earth and landed in the flourishing city of Atlantis, where she married one of its citizens. Liana has mysterious mental powers including telepathy.

ocean?' She's never seen an ocean. She doesn't speak the way we do, or the way that Scott Jordan and Dr. Fred Walters do, who are from the 1970's; she is not *today* . . . she is from somewhere else.

"I think we've got a great show; I love it!" She also likes the fact that she is on the show with Jared Martin. They had worked together before, which helped a lot, especially at the start.

Jared most regrettably was unable to meet with us due to an unexpected rehearsal. Jared has been playing the "heavy" on several television shows, including *The Bold Ones*, *The Rookies*, and *Switch*, so he is pleased to get away from that type of role and avoid being boxed-in to that "heavy stereotype."

In addition to Roddy, science-fiction fans, especially *Star Trek* fans, should be pleased to know that one of the two story consultants is Dorothy (D.C.) Fontana,the former story editor for *Star Trek*! Dorothy also sees a lot of similarities between the two shows: "We have a cast which comprises a family unit the same as with *Star Trek*. And, by going from time zone to time zone, we encounter many different cultures, different societies, just like the *Enterprise* encountered with different planets.

"Also, we treat at least one monster with the same sympathy that *Star Trek* used to show. You know, just because it's different doesn't mean it's ugly or dumb."

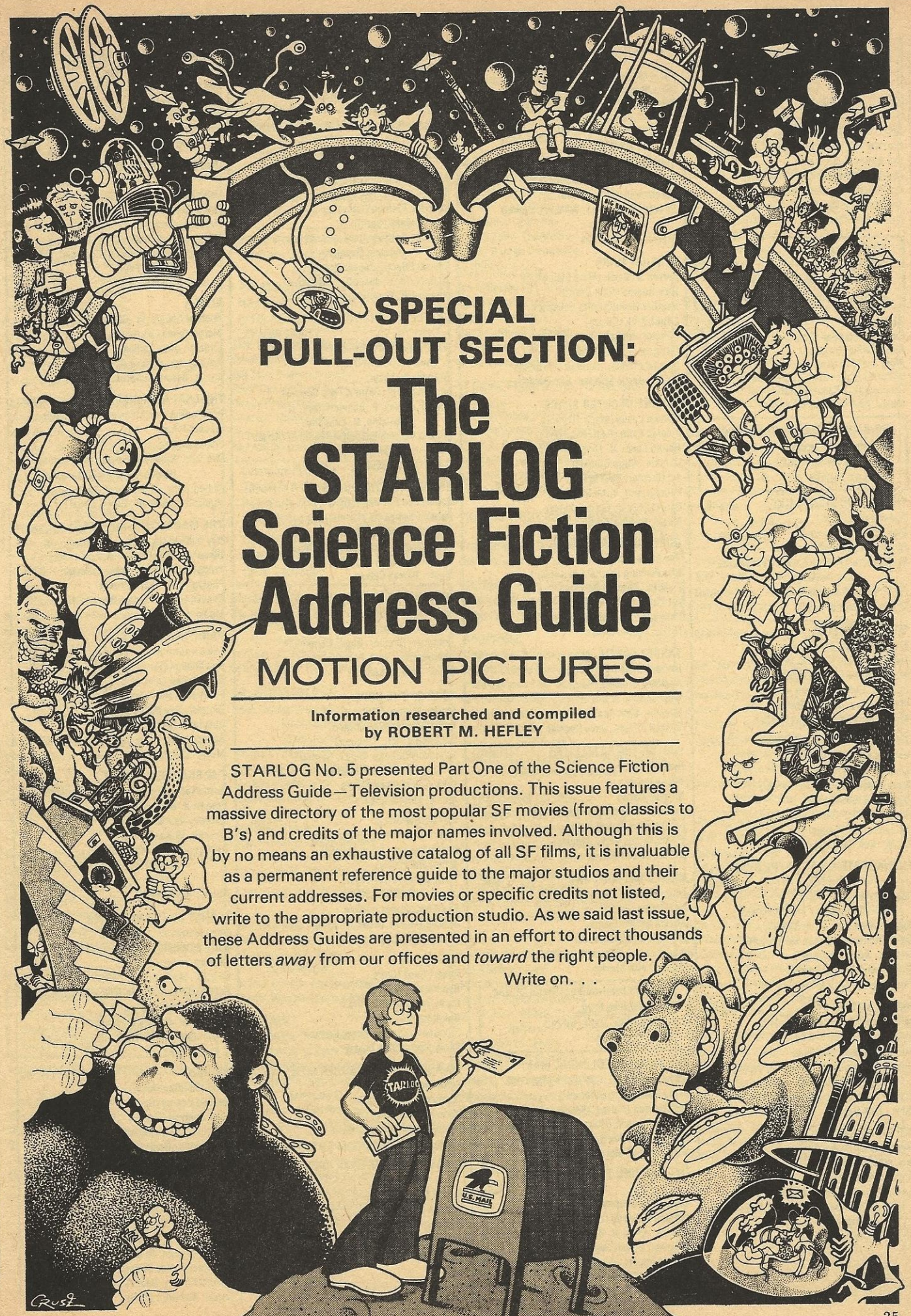
Does Dorothy see the show attacking moral and contemporary social issues the way *Star Trek* did?

"Yes. I'm working on a script now that deals with the woman's lib question and also with treating each other as equals. And we're doing another one this season that deals with the idea that totalitarianism is immoral because of the brutalization of others."

She also added: "It's a very fine show! I'm not *just* prejudiced—I really am enthusiastic about it, I *really* do like it! I think we can explore a lot of interesting stories, and we have very fine actors to do it with . . . "

After a rather sluggish start, without two much critical approval and low audience ratings, *Fantastic Journey* has taken a rare and surprising turn by climbing steadily upward in the Nielsen's. The initial doubts that the show would survive have turned into predictions that it will easily play out this season and probably come on strong in next fall's network line-up. With the apparent passing of *Space: 1999* into the re-run phase, *Fantastic Journey* joins the bionic shows as television's small, token, prime-time gesture to science-fiction enthusiasts.

Whether it's all we might hope for or not, the new *Journey* has great potential and is capable of leading the field in the right direction. ★



SPECIAL PULL-OUT SECTION:

The STARLOG Science Fiction Address Guide

MOTION PICTURES

Information researched and compiled by ROBERT M. HEFLEY

STARLOG No. 5 presented Part One of the Science Fiction Address Guide—Television productions. This issue features a massive directory of the most popular SF movies (from classics to B's) and credits of the major names involved. Although this is by no means an exhaustive catalog of all SF films, it is invaluable as a permanent reference guide to the major studios and their current addresses. For movies or specific credits not listed, write to the appropriate production studio. As we said last issue, these Address Guides are presented in an effort to direct thousands of letters *away* from our offices and *toward* the right people.

Write on. . .

Artwork: Howard Cruse

Adrian Weiss Productions
186 North Canon Drive
Beverly Hills, CA.
(213) 274-9991

SPACEWAYS (1953)
Howard Duff (Stephen Mitchell)
Eva Bartok (Lisa Frank)
Alan Wheatley (Smith)
Art Director: **Terence Fisher**
Photography: **Reg Wyer**
Music: **Ivor Slaney**

Alan Enterprises
17366 Sunset
Pacific Palisades, CA 90272
(213) 459-2925

ALPHAVILLE (1965)
Eddie Constantine (Lemmy Caution)
Anna Karina (Natacha)
Akim Tamiroff (Henri Dickson)
Writer/Director: **Jean-Luc Goddard**
Photography: **Raoul Coutard**
Music: **Paul Misraki**

Allied Artists Pictures Corporation
15 Columbus Circle
New York, N.Y. 10023
(212) 541-9200

THE ATOMIC SUBMARINE (1960)
Arthur Franz (Reef)
Dick Foran (Wendover)
Director: **Spencer G. Bennet**
Special Effects: **Jack Rabin, Irving Block, Louis DeWitt**
Art Director: **Don Ament**
Music: **Alexander Laszlo**

THE COSMIC MAN (1959)
Bruce Bennett (Dr. Karl Sorenson)
John Carradine (Cosmic Man)
Angela Green (Kathy Grant)
Director: **Herbert Greene**
Photography: **John F. Warren**
Music: **Paul Sawtell, Bert Shefter**

THE DAY OF THE TRIFFIDS (1963)
Howard Keel (Bill Masen)
Kieron Moore (Tom Goodwin)
Mervyn Johns (Professor Coker)
Director: **Steve Sekely**
Special Effects: **Wally Veevers**
Makeup: **Paul Rabiger**
Music: **Ron Goodwin**

FRANKENSTEIN MEETS THE SPACE MONSTER (1966)
Robert Reilly (Col. Frank Saunders/"Frankenstein")
James Karen (Dr. Adam Steele)
Marily Hanold (Princess Marcuzan)
Director: **Robert Gaffney**
Screenplay: **George Garret**
Photography: **Saul Midwall**

FRANKENSTEIN 1970 (1958)
Boris Karloff (Baron Frankenstein)
Tom Duggan (Mike Shaw)
Director: **Howard W. Koch**
Special Photography: **George W. Yates, Richard Landau**
Photography: **Carl E. Guthrie**
Music: **Paul Dunlap**

THE GIANT BEHEMOTH (1959)
Gene Evans (Steve Karnes)
Jack MacGowran (Dr. Sampson)
Director: **Eugene Lourie**
Special Effects: **Jack Rabin, Irving Block, Louis De Witt, Willis O'Brien, Pete Patterson**
Music: **Edwin Astley**

INVASION OF THE BODY SNATCHERS (1956)
Kevin McCarthy (Dr. Miles Bennell)
Dana Wynter (Becky Driscoll)
Larry Gates (Dr. Daniel Kaufmen)
Director: **Don Siegel**
Designer: **Edward Haworth**
Music: **Carmen Dragon**

THE MAZE (1954)
Richard Carlson (Gerald McTeam)
Veronica Hurst (Kitty Murray)
Director & Designer: **William Cameron Menzies**
Music: **Marlin Skiles**

MISSION MARS (1968)
Darren McGavin (Mike Blaiswick)
Nick Adams (Nick Grant)
Heather Hewitt (Edith Blaiswick)
Chuck Zink (Chuck)
Director: **Nicholas Webster**
Designer: **Hank Aldrich**
Special Effects: **Haberstroh Studios**
Music: **Berge Kalajian, Gus Pardalis**

MUTINY IN OUTER SPACE (1965)
William Leslie (Major Towers)
Dolores Faith (Faith Montaie)
Harold Loyd, Jr. (Enlisted Man)
Director: **Hugo Grimaldi**
Art Director: **Paul Sylos**
Photography: **Arch R. Dalzell**
Sound Effects: **Gordon Zahler**
Music: **Gordon Zahler**

QUEEN OF OUTER SPACE (1958)
Zsa Zsa Gabor (Talleah)
Eric Fleming (Captain Patterson)
Director: **Edward Bernds**
Art Director: **David Milton**
Photography: **William Whitley**
Music: **Marlin Skiles**

TARGET EARTH (1954)
Richard Denning (Frank)
Kathleen Crowley (Nora)
Whit Bissell (Scientist)
Director: **Sherman A. Rose**
Special Effects: **Dave Koehler**

WAR OF THE SATELLITES (1958)
Richard Miller
Susan Cabot
Richard Devon
Producer/Director: **Roger Corman**
Art Director: **Daniel Haller**
Photography: **Floyd Crosby**
Music: **Walter Greene**

WORLD WITHOUT END (1956)
Huge Marlowe (Borden)
Rod Taylor (Ellis)
Shawn Smith (Elaine)
Director: **Edward Bernds**
Photography: **Ellsworth Fredricks**
Music: **Leith Stevens**

American International Pictures, Inc.
9033 Wilshire Blvd.
Beverly Hills, Calif. 90211
(213) 278-8118

THE AMAZING COLOSSAL MAN (1957)
Glenn Langan (Lt. Col. Glenn Manning)
Cathy Downs (Carol Forrest)
Jud Holdren (Robert Allen)
Director/Special Effects: **Bert I. Gordon**
Photography: **Joe Biroc**
Music: **Albert Glasser**

THE AMAZING TRANSPARENT MAN (1959)
Marguerite Chapman (Laura)
Douglas Kennedy (Faust)
Director: **Edgar G. Ulmer**
Designer: **Ernest Fegte**
Special Effects: **Howard A. Anderson Co.**
Music: **Darrell Calker**

THE ANGRY RED PLANET (1960)
Gerld Mohr (Col. Tom O'Banion)
Nora Hayden (Dr. Irish Ryan)
Jack Kruschen (Sgt. Jacobs)
Director: **Ib Melchior**
Special Effects: **Norman Maurer, Herman Townsley**
Music: **Paul Dunlap**

ASSIGNMENT—OUTER SPACE (1961)
Rik von Nutter (Ray Peterson)
Gabriella Farinon (Lucy)
Jack Wallace (Narrator)
Director: **Anthony Daisies (pseudonym for Antonio Margheriti)**
Special Effects: **Caesar Peace**
Sound Effects: **Joseph von Stroheim**
Music: **J.K. Broady, Gordon Zahler**

BATTLE BEYOND THE SUN (1964) Russian
Ivan Pereversez (Kornev)
A. Shvorin (Gordiyenko)
Director: **A. Kozyr**
English Script: **Francis Ford Coppola**
Special effects: **F. Semyannikov, N. Ilyushin, G. Lukashov**
English Version Executive Producer: **Roger Corman**
Music: **Yuri Meytus**

BEYOND THE TIME BARRIER (1959)
Robert Clarke (Major William Allison)
Darlene Tompkins (Trirene)
Director: **Edgar G. Ulmer**
Photography: **Meredith M. Nicholson**
Designer: **Ernest Fegte**
Music: **Darrell Calker**

DAY THE WORLD ENDED (1956)
Touch (Mike) Connors
Raymond Hatton
Producer/Director: **Roger Corman**
Photography: **Jock Feindel**
Music: **Ronald Stein**

FOOD OF THE GODS (1976)
Marjoe Gortner (Morgan)
Ralph Meeker (Bensington)
Ida Lupino (Mrs. Skinner)
Producer/Director: **Bert I. Gordon**
Art Director: **Graeme Murray**
Photography: **Reg Morris**
Music: **Elliot Kaplan**

FUTUREWORLD (1976)
Peter Fonda (Chuck Browning)
Blythe Danner (Tracy Ballard)
Arthur Hill (Duffy)
Yul Brynner (Gunslinger)
Director: **Richard Heffron**
Producer: **James Aubrey**
Special Effects: **Brent Sellstrom**
Music: **Fred Karlin**

GAS-S-S-S! (1971)
Robert Corff (Coel)
Ben Vereen (Carlos)
Cindy Williams (Marissa)
Bud Cort (Hooper)
Producer/Director: **Roger Corman**
Photography: **Ron Dexter**

INVASION OF THE SAUCER MEN (1957)
Frank Gorshin (Joe)
Raymond Hatton (Larkin)
Director: **Edward L. Cahn**
Photography: **Fredrick West**
Music: **Ronald Stein**

INVASION OF THE STAR CREATURES (1959)
Robert Ball (Philbrick)
Frankie Ray (Penn)
Director: **Bruno Ve Sota**
Art Director: **Mike McCloskey**
Music: **Jack Cookerly, Elliott Fisher**

IT CONQUERED THE WORLD (1956)
Peter Graves (Paul Nelson)
Beverly Garland (Claire Anderson)
Lee Van Cleef (Tom Anderson)
Director: **Roger Corman**
Photography: **Frederick West**
Music: **Ronald Stein**

JOURNEY TO THE SEVENTH PLANET (1961) Danish
John Agar (Don)
Greta Thyssen (Greta)
Producer/Director: **Sidney Pink**
Screenplay: **Ib Melchior, Sidney Pink**
Special Effects: **Ronny Schoemmel, Brent Barfod Film**
Music: **Ib Glindemann**

KONGA (1961)
Michael Gough (Dr. Charles Decker)
Margo Johns (Margaret)
Director: **John Lemont**
Art Director: **Wilfred Arnold**
Music: **Gerard Schurmann**

THE LAST MAN ON EARTH (1964)
(First adaptation of novel **I Am Legend**)
Vincent Price
Franca Bettoia
Directors: **Sidney Salkow (U.S. version), Ubaldo Ragona (Italian version)**
Photography: **Franco Delli Colli**
Music: **Paul Sawtell, Bert Shefter**

THE MAN WITH X-RAY EYES (1963)
Ray Milland (Dr. James Xavier)
Diana Van Der Vlis (Dr. Diane Fairfax)
Producer/Director: **Roger Corman**
Photography: **Floyd Crosby**
Special Effects: **Butler-Glovner, Inc.**
Music: **Les Baxter**

PANIC IN YEAR ZERO! (1962)
(Also known as "The End of the World")
Ray Milland (Harry Baldwin)
Jean Hagen (Ann Baldwin)
Frankie Avalon (Rick Baldwin)
Director: **Ray Milland**
Designer: **Daniel Haller**
Special Effects: **Pat Dinga, Larry Butler**
Music: **Les Baxter**

THE PHANTOM PLANET (1961)
Dean Fredericks (Capt. Frank Chapman)
Francix X. Bushman (Sesom)
Anthony Dexter (Herron)
Director: **William Marshall**
Art Director: **Bob Kinoshita**
Special Effects: Studio Film Service
Music: **Hayes Pagel**

PLANET OF THE VAMPIRES (1965)
(Also known as "Planet of Blood")
Barry Sullivan (Capt. Mark Markary)
Norman Bengell (Sanya)
Director: **Mario Bava**
English Screenplay: **Ib Melchior, Louis M. Heyward**
Art Director: **Giorgio Giovannini**
Music: **Gino Marinuzi, Jr., Antonio Perez Olea**

SQUIRM (1976)
John Scardino (Mick)
Patricia Pearcy (Geri)
Jean Sullivan (Naomi)
Director: **Jeff Lieberman**
Art Director: **Henry Shrady**
Photography: **Joseph Mangine**
Music: **Robert Prince**

THE TIME TRAVELERS (1964)
Preston Foster (Dr. Erik von Steiner)
Philip Carey (Steve Connors)
Merry Anders (Carol White)
Writer/Director: **Ib Melchior**
Art Director: **Ray Storey**
Special Effects: **David L. Hewitt**
Music: **Richard LaSalle**

VOYAGE TO THE END OF THE UNIVERSE (1964) Czech
Dennis Stephans (Commander Vladimir Abajev)
Francis Smolen (Astronomer Anthony Hopkins)
Dana Meredith (Nina Kirova)
Director: **Jack Pollack**
Sound Effects: **Jaromir Svoboda, Bohumir Brunclik**
Special Effects: **Jan Kalis, Milan Nejedly, Jiri Hlupy**
Music: **Danny List**

WAR-GODS OF THE DEEP (1965)
Also known as "City Under The Sea"
Vincent Price (The Captain)
Tab Hunter (Ben Harris)
Susan Hart (Jill Tregellis)
Director: **Jacques Tourneur**
Art Director: **Frank White**
Photography: **Stephen Dade**
Special Effects: **Frank George, Les Bowie**
Music: **Stanley Black**

WAR OF THE COLOSSAL BEAST (1958)
Sally Fraser (Joyce)
Dean Parkin (Glen)
Producer/Director/Special Effects: **Bert I. Gordon**
Photography: **Jack Marta**
Music: **Albert Glasser**

Amicus Productions Ltd.
Pinewood Studios
Iver, Buckinghamshire, England

DALEKS—INVASION EARTH 2150 A.D. (1967)
Peter Cushing (Dr. Who)
Bernard Cribbins (Tom Campbell)
Geoffrey Cheshire (RoboMan)
Jill Curzon (Louise)
Director: **Gordon Flemyng**
Special Effects: **Ted Samuels**
Makeup: **Bunty Phillips**
Music: **Bill McGuffie**
Electronic Music: **Barry Gray**

DR. WHO AND THE DALEKS (1965)
Peter Cushing (Dr. Who)
Roy Castle (Ian)
Jennie Linden (Barbara)
Director: **Gordon Flemyng**
Special Effects: **Ted Samuels**
Electronic Music: **Barry Gray**

THE TERRORNAUTS (1967)
Simon Oates (Dr. Joe Burke)
Zena Marshall (Sandy Lund)
Max Adrian (Dr. Henry Shore)
Director: **Montgomery Tully**
Art Director: **Scott Slimon**
Special Effects: **Ernest Fletcher, Bowie Films**
Music: **Elisabeth Lutyens**

Bryanston Pictures
177 South Beverly Drive
Beverly Hills, Calif. 90212
(213) 273-1262

ANDY WARHOL'S FRANKENSTEIN (1974)
Joe Dallsandro (Nicholas)
Udo Kier (Frankenstein)
Monique Van Vooren (Katrin)
Writer/Director: **Paul Morrissey**
Photography: **Luigi Kueveillier**
Music: **Carlo Gizzi**

DARK STAR (1974)
Brian Narelle (Doolittle)
Dan O'Bannon (Pinback)
Cookie Knapp (Computer)
Producer/Director: **John Carpenter**
Screenplay: **John Carpenter, Dan O'Bannon**
Designer: **Dan O'Bannon**
Photography: **Douglas Knapp**
Special Effects: **Dan O'Bannon**
Optical Effects: **Bill Taylor**
Animation: **Bob Greenberg, John Wash**
Music: **John Carpenter**

British Lion/Cinema 5, Ltd.
(Address listed is for the movie's distributor, Cinema 5)
595 Madison Avenue
New York, N.Y. 10022
(212) 421-55555

THE MAN WHO FELL TO EARTH (1976)
David Bowie (Thomas Jerome Newton)
Rip Torn (Nathan Bryce)
Buck Henry (Oliver Farnsworth)
Candy Clark (Mary-Lou)
Director: **Nicholas Roeg**
Photography: **Anthony Richmond**
Musical Director: **John Phillips**

Columbia Pictures
711 Fifth Avenue
New York, N.Y. 10022
(212) PL1-4400
Colgems Square
Burbank, Calif. 91521
(213) 843-6000

BATTLE IN OUTER SPACE (1960)
Ryo Ikebe (Dr. Katsumiya)
Kyoko Anza (Etsuko)
Director: **Inoshiro Honda**
Art Director: **Teruaki Ando**
Special Effects: **Eiji Tsuburaya**

DR. STRANGELOVE (1964)
Peter Sellers (Group Capt. Lionel Mandrake/President Muffley/Dr. Strangelove)
George C. Scott (Gen. "Buck" Turgidson)
Keenan Wynn (Col. "Bat" Guano)
Sterling Hayden (Gen. Jack D. Ripper)
James Earl Jones (Lt. Lothar Zogg)
Director: **Stanley Kubrick**
Designer: **Ken Adam**
Special Effects: **Wally Veevers**
Travelling Matte: **Vic Margutti**
Music: **Laurie Johnson**

EARTH VS. THE FLYING SAUCERS (1956)
Hugh Marlowe (Dr. Russell A. Marvin)
Morris Ankrum (General Hanley)
Director: **Fred F. Sears**
Story: **Curt Siodmak**
Special Effects: **Ray Harryhausen**
Music: **Mischa Bakaleinikoff**

FAIL SAFE (1964)
Henry Fonda (The President)
Dan O'Herlihy (General Black)
Walter Matthau (Groetschele)
Dom DeLouise (Sgt. Collins)
Director: **Sidney Lumet**
Art Director: **Albert Brenner**
Special Effects & Animation: **Storyboard, Inc.**

FIRST MEN IN THE MOON (1964)
Edward Judd (Arnold Bedford)
Lionel Jeffries (Joseph Cavor)
Peter Finch (Bailiff's Man)
Martha Hyer (Kate Callender)
Director: **Nathan Juran**
Art Director: **John Blezard**
Associate Producer/Special Effects: **Ray Harryhausen**
Music: **Laurie Johnson**

FIVE (1951)
William Phipps (Michael)
Susan Douglas (Roseanne)
Producer/Script/Designer/Director: **Arch Oboler**
Photography: **Louis Clyde Stoumen**
Music: **Henry Russell**

THE GAMMA PEOPLE (1956)
Paul Douglas (Mike Wilson)
Eva Bartok (Paula Wendt)
Director: **John Gilling**
Art Director: **John Box**
Photography: **Ted Moore**
Music: **George Melachrino**

INVASION U.S.A. (1952)
Dan O'Herlihy (Mr. Ohman)
Gerald Mohr (Vince)
Peggie Castle (Carla)
Director: **Alfred E. Green**
Photography: **John L. Russell**
Music: **Albert Glasser**

IT CAME FROM BENEATH THE SEA (1955)
Kenneth Tobey (Pete Matthews)
Faith Domergue (Lesley Joyce)
Director: **Robert Gordon**
Designer: **Paul Palmentola**
Special Effects: **Ray Harryhausen**
Music: **Mischa Bakaleinikoff**

THE MAN THEY COULD NOT HANG (1939)
Boris Karloff (Dr. Henryk Savaard)
Robert Wilcox ("Scoop" Foley)

THE MAN WITH NINE LIVES (1940)
Boris Karloff (Dr. Leon Kravaal)
Roger Pryor (Dr. Tim Mason)

MAROONED (1969)
Gregory Peck (Charles Keith)
Richard Crenna (Jim Pruett)
David Janssen (Ted Dougherty)
James Franciscus (Clayton Stone)
Gene Hackman (Buzz Lloyd)
Director: **John Sturges**
Designer: **Lyle Wheeler**
Special Effects: **Lawrence W. Butler, Donald Glouner, Robie Robinson**

MYSTERIOUS ISLAND (1961)
Michael Craig (Capt. Cyrus Harding)
Michael Callan (Herbert Brown)
Herbert Lom (Captain Nemo)
Gary Merrill (Gordon Spiletti)
Director: **Cy Endfield**
Art Director: **Bill Andrews**
Special Effects: **Ray Harryhausen**
Music: **Bernard Herrmann**

1984 (1956)
Edmund O'Brien (Winston Smith)
Jan Sterling (Julia)
Michael Redgrave (O'Connor)
Director: **Michael Anderson**
Screenplay: **William P. Templeton, Ralph Bettinson**
Art Director: **T. Verity**
Music: **Malcom Arland**

THESE ARE THE DAMNED (1965)
Macdonald Carey (Simon Wells)
Viveca Lindfors (Freya Neilson)
Oliver Reed (King)
Director: **Joseph Losey**
Art Director: **Don Mingaye**
Designer: **Bernard Robinson**
Music: **James Bernard**

12 TO THE MOON (1960)
Ken Clark (Capt. Anderson)
Tony Dexter (Dr. Luis Vargas)
Francis X. Bushman (Narrator)
Director: **David Bradley**
Screenplay: **Dewitt Bodeen**
Photography: **John Alton**
Music: **Michael Anderson**

TWENTY MILLION MILES TO EARTH (1957)
William Hopper (Calder)
Joan Taylor (Marisa)
Director: **Nathan Juran**
Designer: **Cary Odell**
Special Effects: **Ray Harryhausen**
Music: **Mischa Bakaleinikoff**

THE 27th DAY (1957)
Gene Barry
Valerie French
George Voskovec
Director: **William Asher**
Art Director: **Ross Bellah**
Photography: **Henry Freulich**
Music: **Mischa Bakaleinikoff**

THE UNDERWATER CITY (1962)
William Lundigan (Bob Gage)
Julie Adams (Dr. Monica Powers)
Director: **Frank McDonald**
Art Director: **Don Ament**
Special Effects: **Howard Lydecker, Howard A. Anderson Co.**
Music: **Ronald Stein**

Crown International Pictures
292 South La Cienega Blvd.
Beverly Hills, Calif. 90211
(213) 657-6700

FIRST SPACESHIP ON VENUS (1962) Polish
Yoko Tani (Sumiko Ogimura)
Ignacy Machowski (Orloff)
Tang-Hua-Ta (Tchen Yu)
Director: **Kurt Maetzig**
Art Director: **Anatol Radzinowicz**
Special Effects: **Vera Kunstamnn, Jan Olejniczak, Helmut Grewald, Martin Sonnabend**
Music: **Andrzej Markowski** (Polish Version), **Gordon Zahler** (U.S. Version)

Embassy Pictures
6601 Romaine Street
Hollywood, Calif. 90038
(213) 462-7211

SANTA CLAUS CONQUERS THE MARTIANS (1964)
John Call (Santa Claus)
Bill McCutcheon (Dropo)
Pia Zadora (Girmar)
Director: **Nicholas Webster**
Screenplay: **Glenville Mareth**
Art Direction: **Maurice Gordon**
Photography: **David Quaid**

VILLAGE OF THE GIANTS (1965)
(Source: H.G. Wells' "Food of the Gods")
Tommy Kirk (Mike)
Beau Bridges (Fred)
Ronny Howard (Genius)
Director: **Bert I. Gordon**
Photography: **Paul C. Vogel**
Process Photography: **Farciot Edouart**
Special Effects: **Bert I. Gordon, Flora Gordon**

Howco International Pictures
3939 Airline Highway
Metairie, Louisiana 70004
(504) 834-8510

THE BRAIN FROM PLANET AROUS (1957)

John Agar (Steve)
Joyce Meadows (Sally Fallon)
Robert Fuller (Dan)
Director: **Nathan Hertz**
Photography: **Jacques Marquette**
Music: **Walter Greene**

Magna Pictures Corporation
1700 Broadway
New York, N.Y. 10019
(212) 765-2800

DESTINATION INNER SPACE (1966)

Scott Brady (Commander Wayne)
Sheree North (Sandra)
Gary Merrill (Dr. Le Satier)
Ron Burke (The Thing)
Director: **Francis D. Lyon**
Art Director: **Paul Sylos, Jr.**
Special Effects: **Roger George**
Sound Effects: **Joseph Von Stroheim, Douglas H. Grindstaff**
Amphibian Created by: **Richard Cassarino**

SOLARIS (RUSSIAN) (1976)

Donatis Banionis (Chris Kelvin)
Natalya Bondarchuk (Hari)
Director: **Andrei Tarkovsky**
Photography: **Vadim Yusov**
Music: **Eduard Artemyev**

Mammoth Films
116 W. 14th Street
New York, N.Y. 100
(212) 741-9070

FLESH GORDON (1974)

Jason Williams (Flesh Gordon)
Suzann Fields (Dale Ardor)
Joseph Hudgins (Dr. Jerkoff)
William Hunt (Emperor Whang)
Directors: **Howard Ziehm, Michael Benveniste**
Screenplay: **Michael Benveniste**
Art Director: **Donald Harris**
Special Effects: **Howard Ziehm, Lynn Rogers, Walter R. Cichy**
Music: **Ralph Ferraro**

Marvin Films
1501 Broadway
New York, N.Y. 10036
(212) 354-5700

A BOY AND HIS DOG (1976)

Don Johnson (Vic)
Jason Robards (Lew)
Susanne Benton (Quilla June)
Writer/Director: **L.Q. Jones**
Original Story: **Harlan Ellison**
Photography: **John Arthur Morrill**

Medallion TV Enterprises
8831 Sunset Blvd.
West Hollywood, CA. 90069
(213) 652-8100

PROJECT MOONBASE (1953)

Donna Martell (Capt. Briteiss)
Hayden Rourke
Director: **Richard Talmadge**
Screenplay: **Robert Heinlein, Jack Seaman**
Photography: **Willard Thompson**
Design: **Jerome Pycha**
Music: **H.B. Gilbert**

Metro-Goldwyn-Mayer, Inc.
10202 W. Washington Blvd.
Culver City, Calif. 90230
(213) 836-3000

AROUND THE WORLD UNDER THE SEA (1966)

Lloyd Bridges (Dr. Doug Standish)
Brian Kelly (Dr. Craig Mosby)
David McCallum (Dr. Phil Volker)
Keenan Wynn (Hank Stahl)
Marshall Thompson (Dr. Orin Hillyard)
Executive Producer: **Ivan Tors**
Producer/Director: **Andrew Marton**
Diving Sequence Director: **Ricou Browning**
Art Directors: **Preston Rountree, Mel Bledsoe**
Special Effects: **Projects Unlimited**
Music: **Harry Sukman**

BATTLE BENEATH THE EARTH (1968)

Kerwin Matthews (Commander Jonathan Shaw)
Viviane Ventura (Tila Yung)
Robert Ayres (Admiral Hillebrand)
Edward Bishop (Lt. Cmdr. Vance Cassidy)
Director: **Montgomery Tully**
Art Director: **Jim Morahan**
Special Effects: **Tom Howard**
Music: **Ken Jones**

CHILDREN OF THE DAMNED (1963)

Ian Hendry (Col. Tom Lewellin)
Alan Badel (Dr. David Neville)
Director: **Anton Leader**
Special Effects: **Tom Howard**
Photography: **David Boulton**
Music: **Ron Goodwin**

FIRST MAN INTO SPACE (1958)

Marshall Thompson (Commander C.E. Prescott)
Marla Landi (Tia Francesca)
Director: **Robert Day**
Photography: **Geoffrey Faithfull**
Music: **Buxton Orr**

FORBIDDEN PLANET (1956)

Walter Pidgeon (Dr. Morbius)
Anne Francis (Altaira Morbius)
Leslie Nielson (Commander Adams)
Jack Kelly (Lt. Farman)
Richard Anderson (Chief Quinn)
James Drury (Strong)
Director: **Fred McLeod Wilcox**
Designer: **Arthur Lonergan**
Art Direction: **Cedric Gibbons**
Photography: **George Folsey**
Special Effects: **A. Arnold Gillespie, Warren Newcombe, Irving G. Ries, Joshua Meador**
Electronic Tonalities: **Louis and Bebe Barron**

THE GREEN SLIME (1969)

Robert Horton (Jack Rankin)
Richard Jaeckel (Vince Elliot)
Luciana Paluzzi (Lisa Benson)
Director: **Kinji Fukasaku**
Special Effects: **Akira Watanabe, Yukio Manoda, Nihon Special Effects Co.**
Music: **Charles Fox, Toshiaki Tsushima**

THE INVISIBLE BOY (1957)

Richard Eyer (Timmie Merrinoe)
Philip Abbot (Dr. Merrinoe)
Robby the Robot (Himself)
Director: **Herman Hoffman**
Designer: **Merrill Pye**
Special Effects: **Jack Rabin, Louis Dewitt, Irving Block**
Music: **Les Baxter**

LOGAN'S RUN (1976)

Michael York (Logan)
Jennie Agutter (Jessica)
Peter Ustinov (Old Man)
Director: **Michael Anderson**
Art Director: **Dale Hennessey**
Special Effects: **Brent Sellstrom**
Music: **Jerry Goldsmith**

THE MYSTERIANS (1959)

Kenji Sahara (Joji Atsumi)
Yumi Shirakawa (Etsuko Shiraishi)
Director: **Inoshiro Honda**
Photography: **Hajime Koizumi**
Special Effects: **Eiji Tsuburaya**
Music: **Akaira Ifukube**

NIGHT OF THE LEPUS (1972)

Stuart Whitman (Roy Bennett)
Janet Leigh (Jerry Bennett)
DeForest Kelley (Elgin Clark)
Director: **William F. Claxton**
Photography: **Ted Voigtlander**
Design: **Stan Jolley**
Music: **Jimmie Haskell**

THE POWER (1968)

George Hamilton (Jim Tanner)
Suzanne Pleshette (Margery Lansing)
Richard Carlson (N.E. Van Zandt)
Michael Rennie (Arthur Nordlund)
Earl Holliman (Talbot Scott)
Arthur O'Connell (Henry Hallson)
Director: **Byron Haskin**
Producer: **George Pal**
Special Effects: **J. McMillan Johnson, Gene Warren, Wah Chang**
Electronic Sound Effects: **Lovell Norman**
Music: **Miklos Rozsa**

SOYLENT GREEN (1973)

Charlton Heston (Detective Thorn)
Edward G. Robinson (Sol Roth)
Chuck Connors (Tab)
Director: **Richard Fleischer**
Art Director: **Edward C. Carfagno**
Music: **Fred Myrow**

THE TIME MACHINE (1960)

Rod Taylor (George—The Time Traveler)
Alan Young (Filby)
Yvette Mimieux (Weena)
Producer/Director: **George Pal**
Art Direction: **George W. Davis, William Ferrari**
Special Effects: **Gene Warren, Tim Barr, Wah Chang**
Music: **Russell Garcia**

2001: A SPACE ODYSSEY (1968)

Keir Dullea (David Bowman)
Gary Lockwood (Frank Poole)
Douglas Rain (Voice of Hal 9000)
Producer/Director: **Stanley Kubrick**
Screenplay: **Stanley Kubrick, Athur C. Clarke**
Designers: **Tony Masters, Harry Lange, Ernest Archer**
Photography: **Geoffrey Unsworth**
Special Effects Design & Director: **Stanley Kubrick**
Special Effects Supervisors: **Wally Veevers, Douglas Trumbull, Con Pederson, Tom Howard**
Music: **Aram Ilich Khachaturyan, Gyorgy Ligeti, Johann Strauss, Richard Strauss**

VILLAGE OF THE DAMNED (1960)

George Sanders (Gordon Zellaby)
Barbara Shelley (Anthea Zellaby)
Director: **Wolf Rilla**
Designer: **Ivan King**
Screenplay: **Sterling Silliphant, Wolf Rilla, George Barclay**
Special Effects: **Tom Howard**
Music: **Ron Goodwin**

WESTWORLD (1974)

James Brolin (John Blane)
Richard Benjamin (Peter Martin)
Yul Brynner (Gunslinger)
Majel Barrett (Miss Carrie)
Writer/Director: **Michael Crichton**
Visual Effects Coordinator: **Brent Sellstrom**
Special Effects: **Charles Schulthies**
Music: **Fred Karlin**

Monarch Releasing Corporation
330 W. 58th Street
New York, N.Y. 10019
(212) 757-3635

FANTASTIC INVASION OF PLANET EARTH (1967)

(Formerly titled "The Bubble")
Michael Cole (Mark)
Deborah Walley (Catherine)
Johnny Desmond (Tony)
Director: **Arch Oboler**
Art Director: **Marvin Chomsky**
Photography: **Charles Wheeler**
Music: **Paul Sawtell, Bert Shefter**

National Telefilm Associates
711 Fifth Avenue, 5th Fl., Suite 3
New York, New York
(212) 752-4982

THE BAMBOO SAUCER (1968)

Rereleased in 1969 as "Collision Course"
Dan Duryea (Hank Peters)
John Ericson (Fred Norwood)
Lois Nettleton (Anna Karachev)
Writer/Director: **Frank Telford**
Original Story: **Rip von Ronkel, John P. Fulton**
Photography: **Hal Mohr**
Special Effects: **John P. Fulton, Glen Robinson, Deon Hanson**
Music: **Edward Paul**

BLOOD BEAST FROM OUTER SPACE (1966)

John Saxon (Jack Costain)
Maurice Denham (Professor Morley)
Patricia Haines (Ann Barlow)
Director: **John Gilling**
Art Director: **Harry White**
Photography: **Stephen Dade**
Music: **Johnny Gregory**

CATWOMAN OF THE MOON (1954)

Sonny Tufts (Grainger)
Victor Jory (Kip)
Marie Windsor (Helen)
Director: **Arthur Hilton**
Art Director: **William Glasgow**
Music: **Elmer Bernstein**

CYBORG 2087 (1966)

Michael Rennie (Garth)
Karen Steele (Sharon)
Wendell Corey (Sheriff)
Harry Carey, Jr. (Jay C.)
Director: **Franklin Adreon**
Art Director: **Paul Spylos, Jr.**
Music: **Paul Dunlap**

JOURNEY TO THE CENTER OF TIME (1967)

Scott Brady (Stanton Jr.)
Anthony Eisley (Mark Manning)
Gigi Perreau (Karen White)
Director: **David L. Hewitt**
Art Director: **Edward Engoron**
Photography: **Robert Caramico**
Special Effects: **Modern Film Effects**

New World Pictures
8831 Sunset Blvd.
Los Angeles, Calif. 90069
(213) 657-2201

FANTASTIC PLANET (1974)
Animated
Director: **Rene' Laloux**
Screenplay: **Rene' Laloux, Roland Topor**
Graphic Direction: **Joseph Kabri, Joseph Vania**
Original Art Work: **Roland Topor**
Music: **Alain Goraguer**

Paramount Pictures
1 Gulf & Western Plaza
New York, N.Y. 10023
(212) 333-7000
(also)
202 North Canon Drive
Beverly Hills, Calif. 90210
(213) 463-0100

BARBARELLA (1968)
Jane Fonda (Barbarella)
John Phillip Law (Pygar)
Milo O'Shea (Durand-Durand)
Marcel Marceau (Professor Ping)
Director: **Roger Vadim**
Producer: **Dino De Laurentiis**
Music: **Maurice Jarre**
Special Effects: **Augie Lohman**

THE BIG BUS (1976)
Stockard Channing (Kitty Baxter)
Rene Auberjonois (Father Kudos)
Jose Ferrer (Ironman)
Ruth Gordon (Old Lady)
Harold Gould (Professor Baxter)
Director: **James Frawley**
Photography: **Harry Stradling, Jr.**
Design: **Joel Schiller**
Music: **David Shire**

THE BLOB (1958)
Steve McQueen (Steve)
Aneta Corseaut (Judy)
Director: **Irwin S. Yeaworth, Jr.**
Photography: **Thomas Spalding**
Special Effects: **Barton Sloane**
Music: **Ralph Carmichael**
Title Song: **Burt Bachrach**

CONQUEST OF SPACE (1955)
Walter Brooke (Samuel Merritt)
Eric Fleming (Barney Merritt)
Director: **Byron Haskin**
Producer: **George Pal**
Special Effects: **John P. Fulton, Irmin Roberts, Paul Lerpae, Ivyl Burks, Jan Domela**
Music: **Nathan Van Cleave**

CRACK IN THE WORLD (1965)
Dana Andrews (Dr. Stephen Sorensen)
Kieron Moore (Ted Rampion)
Alexander Knox (Sir Charles Eggerston)
Director: **Andrew Marton**
Art Director: **Eugene Lourie**
Special Effects: **Eugene Lourie, Alex Weldon**
Music: **Johnny Douglas**

I MARRIED A MONSTER FROM OUTER SPACE (1958)
Tom Tryon (Bill Farrell)
Gloria Talbott (Marge Farrell)
Director: **Gene Fowler, Jr.**
Art Directors: **Hal Pereira, Henry Bumstead**
Special Effects: **John P. Fulton**
Makeup: **Charles Gemora**

ISLAND OF LOST SOULS (1932)
Charles Laughton (Dr. Moreau)
Richard Arlen (Edward Parker)
Bela Lugosi (Leader of the Apemen)
Director: **Erle Kenton**
Photography: **Karl Strauss**
Screenplay: **Philip Wylie, Waldemar Young**

METROPOLIS (1927)
Alfred Abel (John Masterman—called John Frederson in some versions)
Rudolph Klein (Rogge—called Rotwang in some versions)
Gustav Froehlich (Eric Masterman—called Freder in some versions)
Brigette Helm (Maria)
Director: **Fritz Lang**
Script: **Thea von Harbou** (from her novel)
Designers: **Otto Hunte, Eric Kettelhut, Karl Vollbrecht**
Process Photography: **Gunther Rittau**
Special Effects: **Eugen Shuftan**

ROBINSON CRUSOE ON MARS (1964)
Paul Mantee (Commander Christopher Draper)
Vic Lundin (Friday)
Adam West (Col. Dan McReady)
Mona the Wooly Monkey (Herself)
Producer: **George Pal**
Director: **Byron Haskin**
Screenplay: **Ib Melchior, John C. Higgins**
Art Directors: **Hal Pereira, Arthur Lonergan**
Photography: **Winston C. Hoch**
Special Effects: **Lawrence W. Butler**
Music: **Nathan Van Cleave**

SECONDS (1966)
Rock Hudson (Antiochus Wilson)
Will Geer (Old Man)
Richard Anderson (Dr. Innes)
Director: **John Frankenheimer**
Designer: **Ted Haworth**
Photography: **James Wong Howe**
Music: **Jerry Goldsmith**

THE SPACE CHILDREN (1958)
Jackie Coogan (Hank Johnson)
John Crawford (Ken Brewster)
Director: **Jack Arnold**
Designers: **Hal Pereira, Roland Anderson**
Special Effects: **John P. Fulton**
Music: **Nathan Van Cleave**

WAR OF THE WORLDS (1953)
Gene Barry (Clayton)
Anne Robinson (Sylvia)
Cedric Hardwicke (Narrator)
Director: **Byron Haskin**
Producer: **George Pal**
Designers: **Hal Pereira, Albert Nozaki**
Special Effects: **Gordon Jennings, Wallace Kelley, Paul K. Lerpae, Ivyl Burks, Jan Domela, Irmin Roberts**
Music: **Leith Stevens**

WHEN WORLDS COLLIDE (1951)
Richard Derr (Dave Randall)
Barbara Rush (Joyce)
Director: **Rudolph Mate**
Producer: **George Pal**
Special Effects: **Gordon Jennings, Harry Barndollar**
Designers: **Chesley Bonestell, Hal Pereira, Albert Nozaki**
Music: **Leith Stevens**

Z.P.G. (Zero Population Growth) (1972)
Oliver Reed (Russ)
Geraldine Chaplin (Carol)
Diane Cilento (Edna)
Director: **Michael Campus**
Art Director: **Harry Lange, Peter Hojmark**
Design: **Tony Masters**
Photography: **Michael Reed**
Music: **Jonathan Hodge**

RKO Radio Pictures
1440 Broadway
New York, N.Y. 10018
(212) 764-7000

THE THING (1951)
Kenneth Tobey (Captain Patrick Hendry)
Margaret Sheridan (Nikki)
James Arness (The Thing)
Director: **Christian Nyby**
Screenplay: **Charles Lederer**
Photography: **Russell Harlan**
Special Effects: **Donald Stewart**
Music: **Dimitri Tiompkin**

Republic
655 Madison Avenue, Suite 1201
New York, N. Y. 10021
(212) 838-8813

ZOMBIES OF THE STRATOSPHERE (1952)
Leonard Nimoy (Narab)
Judd Holdren (Commando Cody)
Director: **Fred C. Brannon**
Photography: **John McBurnie**
Special Effects: **Howard & Theodore Lydecker**

Twentieth Century-Fox Film Corp
Box 900
Beverly Hills, Calif. 90213
(213) 277-2211

THE ALLIGATOR PEOPLE (1959)
Lon Chaney, Jr. (Mannon)
Beverly Garland (Jane Marvin)
George Macready (Dr. Mark Sinclair)
Director: **Roy Del Ruth**
Makeup: **Ben Nye, Dick Smith**
Music: **Irving Gertz**

BATTLE FOR THE PLANET OF THE APES (1973)
Roddy McDowall (Caesar)
Claude Akins (Aldo)
Lew Ayres (Mandemus)
John Huston (The Lawgiver)
Director: **J. Lee Thompson**
Makeup Design: **John Chambers**
Special Mechanical Effects: **Gerald Endler**
Music: **Leonard Rosenman**

BENEATH THE PLANET OF THE APES (1970)
James Franciscus (Brent)
Charlton Heston (Taylor)
Kim Hunter (Zira)
Maurice Evans (Dr. Zaius)
Roddy McDowall (Introductory Voice)
Director: **Ted Post**
Art Directors: **Jack Martin Smith, William Creber**
Makeup Design: **John Chambers**
Makeup Supervision: **Dan Striepke**
Special Effects: **L.B. Abbott, Art Cruickshank**
Music: **Leonard Rosenman**

PLANET OF THE APES (1968)
Charlton Heston (George Taylor)
Roddy McDowall (Cornelius)
Kim Hunter (Zira)
Buck Kartalian (Julius) — see TV listing for "Monster Squad"
Maurice Evans (Dr. Zaius)
James Whitmore (President of the Assembly)
Director: **Franklin J. Schaffner**
Producer: **Arthur P. Jacobs**
Screenplay: **Michael Wilson, Rod Serling**
Art Directors: **Jack Martin Smith, William Creber**
Makeup Design: **John Chambers**
Makeup Supervision: **Ben Nye, Dan Striepke**
Special Effects: **L.B. Abbott, Art Cruickshank, Emil Kosa, Jr.**
Music: **Jerry Goldsmith**

CONQUEST OF THE PLANET OF THE APES (1972)
Roddy McDowall (Caesar)
Ricardo Montalban (Armando)
Director: **J. Lee Thompson**
Art Director: **Philip Jefferies**
Makeup Design: **John Chambers**
Music: **Tom Scott**

CURSE OF THE FLY (1965)
(Sequel to "The Fly" & "Return of the Fly")
Brian Donlevy (Henri Delambre)
George Baker (Martin Delambre)
Carole Gray (Patricia Stanley)
Director: **Don Sharp**
Producers: **Robert L. Lippert, Jack Parsons**
Art Director: **Harry White**
Special Effects Makeup: **Harold Fletcher**
Music: **Bert Shefter**

THE DAY THE EARTH STOOD STILL (1951)
Michael Rennie (Klaatu)
Patricia Neal (Helen Benson)
Sam Jaffe (Professor Bernhardt)
Director: **Robert Wise**
Designer: **Lyle Wheeler, Addison Hehr**
Music: **Bernard Herrmann**

THE DAY MARS INVADED EARTH (1963)
Kent Taylor (Dr. David Fielding)
Marie Windsor (Claire Fielding)
Producer/Director: **Maury Dexter**
Photography: **John Nickolaus, Jr.**
Makeup: **Harry Ross**
Music: **Richard LaSalle**

THE EARTH DIES SCREAMING (1964)
Willard Parker (Jeff Nolan)
Virginia Field (Peggy)
Director: **Terence Fisher**
Producers: **Robert L. Lippert, Jack Parsons**
Art Director: **George Provis**
Photography: **Arthur Lavis**
Makeup: **Harold Fletcher**
Music: **Elisabeth Lutyens**

ESCAPE FROM THE PLANET OF THE APES (1971)
Roddy McDowall (Cornelius)
Kim Hunter (Zira)
Director: **Don Taylor**
Makeup Design: **John Chambers**
Art Directors: **Jack Martin Smith, William Creber**
Music: **Jerry Goldsmith**

FANTASTIC VOYAGE (1966)
Stephen Boyd (Grant)
Arthur Kennedy (Dr. Duval)
Raquel Welch (Cora Peterson)
Arthur O'Connell (Col. Donald Reid)
Edmond O'Brien (General Carter)
Donald Pleasence (Dr. Michaels)
William Redfield (Captain Bill Owens)
Director: **Richard Fleischer**
Producer: **Saul David**
Art Director: **Jack Martin Smith, Dale Hennesy**
Photography: **Ernest Laszlo**
Special Effects: **L.B. Abbott, Art Cruickshank, Emil Kosa, Jr.**
Makeup: **Ben Nye**
Music: **Leonard Rosenman**

FIVE MILLION YEARS TO EARTH (1968)
(Also known as "Quatermass and the Pit")
James Donald (Dr. Roney)
Andrew Keir (Quatermass)
Barbara Shelley (Barbara Judd)
Special Effects: **Bowie Films**

MOON ZERO TWO (1970)
James Olson (Bill Kemp)
Catherina von Schell (Clementine Taplin)
Director: **Roy Ward Baker**
Photography: **Paul Beeson**
Special Effects: **Kit West, Nick Allder, Les Bowie**
Music: **Don Ellis, Philip Martell**

THE OMEGA MAN (1971)
Charlton Heston (Neville)
Anthony Zerbe (Matthias)
Director: **Boris Sagal**
Art Directors: **Arthur Loel, Walter M. Simonds**
Makeup: **Gordon Bau**
Music: **Ron Grainer**

THE RETURN OF DOCTOR X (1939)
Humphrey Bogart (Marshall Quesne)
Rosemary Lane (Joan Vance)
Wayne Morris (Walter Barnett)
Huntz Hall (Pinky)
Glen Langan (Intern)—see AIP "The Amazing Colossal Man"
Director: **Vincent Sherman**
Art Director: **Esdras Hartley**
Screenplay: **Lee Katz**
Photography: **Sid Hickox**

SATELLITE IN THE SKY (1956)
Kieron Moore (Michael)
Lois Maxwell (Kim)
Donald Wolfit (Merrity)
Director: **Paul Dickson**
Photography: **Georges Perinal**
Special Effects: **Wally Veevers**
Music: **Albert Elms**

THX 1138 (1971)
Robert Duvall (THX 1138)
Donald Pleasence (SEN)
Johnny Weismuller, Jr. (Robot)
Director: **George Lucas**
Designer: **Michael Haller**
Music: **Lalo Schifrin**

TEENAGERS FROM OUTER SPACE (1959)
David Love (Derek)
Dawn Anderson (Betty Morgan)
Director/Producer/Scriptwriter/Photographer/Editor/Special Effects: **Tom Graeff**

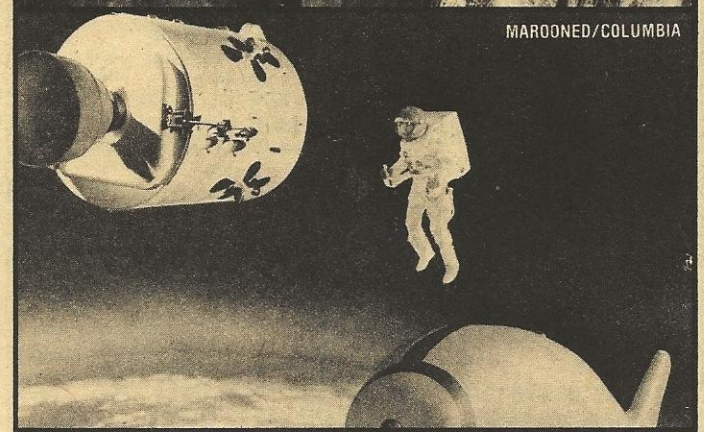
THE TERMINAL MAN (1974)
George Segal (Harry Benson)
Joan Hackett (Dr. Janet Ross)
Director: **Mike Hodges**
Photography: **Richard H. Kline**
Music: **Johann Sebastian Bach**

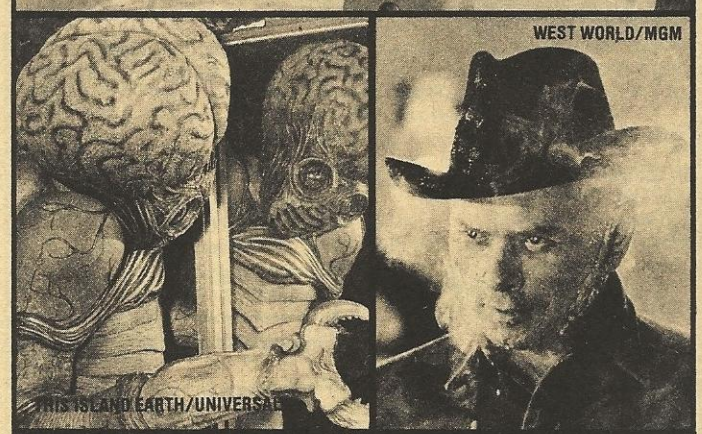
THEM! (1954)
James Whitmore (Sgt. Ben Peterson)
Edmund Gwenn (Dr. Harold Medford)
James Arness (Robert Graham)
Fess Parker (Crotty)
Director: **Gordon Douglas**
Designer: **Stanley Fleischer**
Photography: **Sid Hickox**
Music: **Bronislau Kaper**

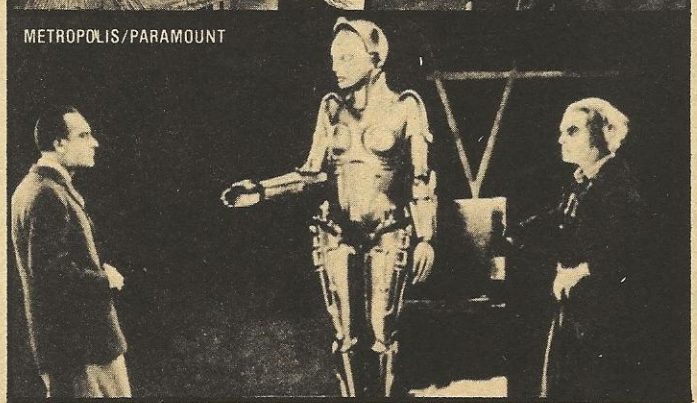
STARLOG wishes to express its appreciation to the staff of the Theatre Collection of the New York Public Library at Lincoln Center, N.Y.C. for their invaluable assistance in researching these films.

FLASH GORDON/UNIVERSAL

PLANET OF THE APES/20TH CENTURY-FOX


MAROONED/COLUMBIA


THIS ISLAND EARTH/UNIVERSAL
WEST WORLD/MGM


METROPOLIS/PARAMOUNT

ADDITIONS

AMERICAN INTERNATIONAL PICTURES

THE ISLAND OF DR. MOREAU (1977)
Burt Lancaster (Dr. Moreau)
Michael York (Braddock)
Barbara Carrera (Maria)
Richard Basehart (Sayer of the Law)
Executive Producers: **Samuel Z. Arkoff, Sandy Howard**
Producers: **John Temple-Smith, Skip Steloff**
Director: **Don Taylor**
Screenplay: **John Shaner, Al Ramrus**
Based on the novel by: **H.G. Wells**
Make-up Supervisors: **John Chambers, Don Striepke**

COLUMBIA

CLOSE ENCOUNTERS OF THE THIRD KIND
Richard Dreyfuss (Ron Neary)
Francois Truffaut (Claude Lacombe)
Teri Garr (Ronnie Neary)
Melinda Dillon (Jillian Guiler)
Producer: **Julia Phillips**
Director: **Steven Spielberg**
Screenplay: **Steven Spielberg**
Visual Effects Coordinator: **Douglas Trumbull**

SINBAD AND THE EYE OF THE TIGER (1977)
Patrick Wayne(Sinbad)
Taryn Power (Dione)
Jane Seymour (Princess Farah)
Producer: **Charles Schneer**
Director: **Sam Wanamaker**
Special Effects: **Ray Harryhausen**

20TH CENTURY FOX

SURVIVAL RUN (1977)
Jan-Michael Vincent (Tanner)
George Peppard (Denton)
Dominque Sanda (Janice)
Paul Winfield (Keegan)
Executive Producers: **Hal Landers, Bobby Roberts**
Producers: **Jerome Zeitman, Paul Maslansky**
Director: **Jack Smight**
Screenplay: **Lucas Heller & Alan Sharp**
From the novel by: **Roger Zelazny**
Special Effects: **Milton Rice**
Stunt Coordinator: **Dean Jeffries**
Music: **Jerry Goldsmith**

WIZARDS (1977)
Producer: **Ralph Bakshi**
Director of Animation: **Ralph Bakshi**

STAR WARS (1977)
Mark Hamill (Luke Skywalker)
Alec Guiness (Ben Kenobi)
Carrie Fisher (Princess)
Producer: **Gary Kurtz**
Director: **George Lucas**
Screenplay: **George Lucas**
Production Design: **John Barry**
Dir. of Photography: **Gil Taylor**
Miniatures & Optical FX: **John Dykstra**
Music: **John Williams**
Production & Mechanical FX: **John Stears**

UNITED ARTISTS

CARRIE (1976)
Sissy Spacek (Carrie)
Piper Laurie (Margaret White)
John Travolta (Billy Nolan)
Producer: **Phil Monash**
Director: **Brian De Palma**
Screenplay: **Lawrence D. Cohen**
Based on the novel by: **Stephen King**
Special Effects: **Gregory M. Auer**

WARNER BROTHERS

DOC SAVAGE (1975)
Ron Ely (Doc Savage)
Producer: **George Pal**
Director: **Michael Anderson**
Special Effects: **Sass Bedig, Robert Macdonald**

Whatever can be envisioned by a creative science-fiction writer can be committed to film by a creative animation team. Moreover, animating permits an audience to accept unnatural phenomena and non-human characters far more easily than does live-action photography. These concepts were foremost in the minds of Norm Prescott and Lou Scheimer—top executives at Filmation Studios—when they approached Gene Roddenberry and Paramount Studios to ask for the right to produce an animated version of *Star Trek* . . .

To the Limits of Imagination: Animating *STAR TREK*

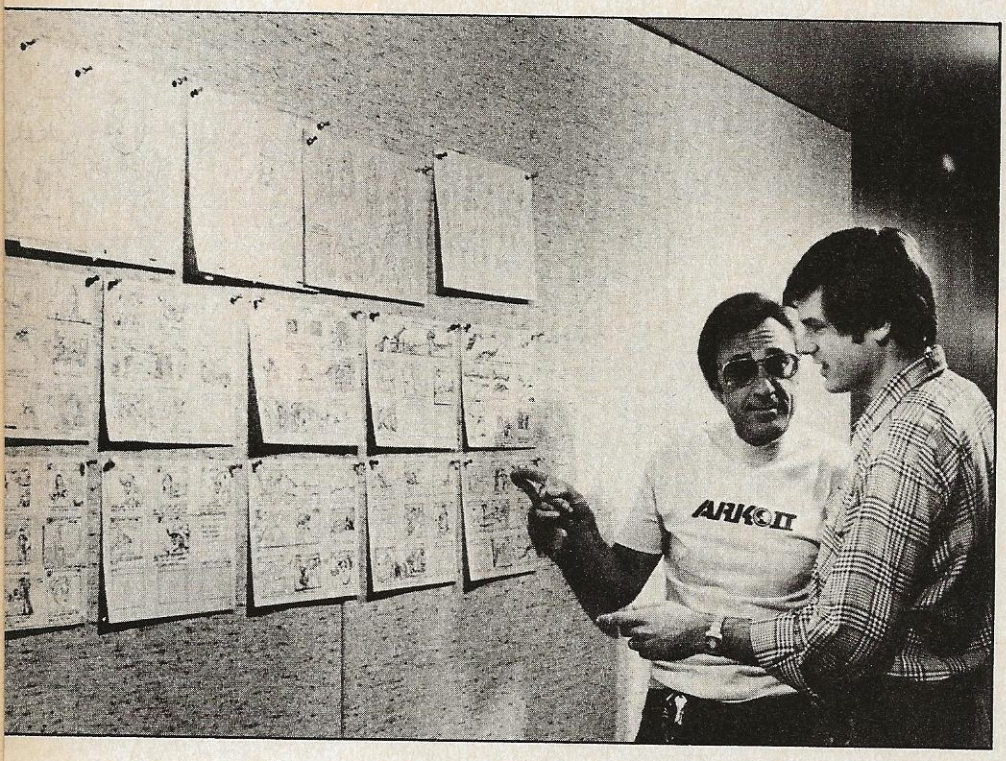
By MALCOLM C. KLEIN

Before they approached Roddenberry, Filmation had already racked up an impressive list of successes. *Journey to the Center of the Earth, Superman, Fantastic Voyage, Batman* and *Aquaman* are a few film and television credits from the Filmation history. Further, they were willing to commit their best team of creative artists to the new project—to be headed by veteran director Hal Sutherland. Most important: they were willing to pledge their committment to the authenticity of the original *Star Trek* format, purposes, and standards of excellence in story telling.

So the rights were granted, and NBC bought the series. But, with the kind of reasoning so often displayed by network programming executives, they continued to regard *anything* in animation to be kiddie-cartoon-fare. The show was relegated to Saturday morning and was destined to become one of the best kept secrets of television.

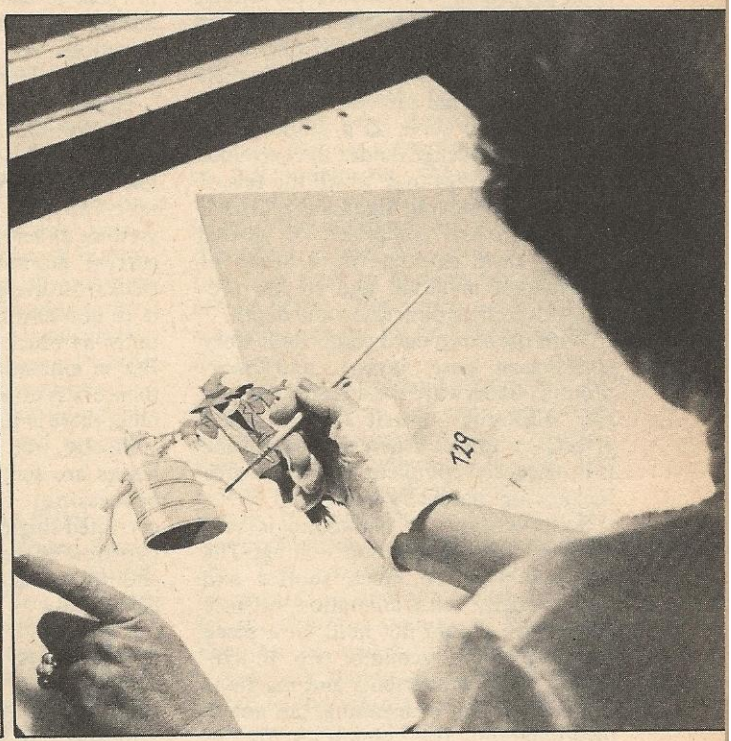
Written by some of the heralded science-fiction writers who contributed to the nighttime show, voice-acted by

Photos: © Filmation Studios



About the author: Malcolm C. Klein is a management and marketing consultant to Filmation Studios. He is a veteran of 28 years in broadcasting, winner of several Emmy Awards for the production of innovative programming. He has managed TV stations in Los Angeles and New York and has been President of several TV production and distribution companies. Recently he has been a guest speaker at *Star Trek* conventions on the subject of animation.

Left: The man in the *Ark II* t-shirt is Norm Prescott, the President of Filmation Studios (which also produces the live-action SF show, *Ark II*). He and principal layout designer Bob Kline are examining a storyboard for their animated version of *The Wizard of Oz*. Right: A background artist fills in sky and details on a cel. Each overlay helps to fill in and flesh out the individual moment being illustrated as well as adding the illusion of depth. Far right: A cel artist is painting the main characters for a particular scene from *Oz*. Note the precautions taken against smudging. Below: Bem (from the episode of the same name) is a captive of creatures on Delta Theta III, but Kirk and Spock come to his aid.



the original heroes of the *Enterprise,* drawn, painted and animated by some of Hollywood's finest talents . . . the show was placed in a time slot dominated by 2 to 10 year olds who loved the pretty colors and the super aliens. But the real action of *Star Trek* was in its ideas and its words, which were just too much for the audience at that hour.

The contract for the first year was for 16 episodes; six more were added for the second. And that was all they wrote. As with the live-action nighttime show, the animated series faded into oblivion.

But the word spread. Though many followers of the nighttime *Star Trek* never saw the animated series, they did hear about it and read about it. Scripts were circulated. Ballantine Books published them. Animated episodes were screened at conventions. Some beautiful cels (short for celluloids, a single frame of animation movement) got out of the studio and into the hands of collectors. All of these things kept the show alive. Maybe it had faded into obscurity, but that's where *Star Trek* fans were used to finding their favorites!

And the message got through. Paramount is now releasing the animated series to TV by syndication, and stations are scheduling the program in late afternoon and evening time periods. Starved for new *Star Trek* lore, fans will discover the same enchantment they found with the live-action series; but they'll also be getting something new: uninhibited science fiction that only animation can depict.

CAVEMAN TO EDISON TO DISNEY

A look into the history of animation, and a step-by-step walk through the production of a *Star Trek* show, will provide a basis for greater appreciation and enjoyment of the 22 new *Star Trek* stories . . .

Fifty thousands years ago, cavemen drew beasts with several sets of legs—each set showing a successive stage in a step or a leap. This was the first employment of the principle of animation. Then, more than a century ago, drawings on a wheel that was spun could create the illusion of motion, and drawings on sheets of paper that were flipped through with the fingers provided amusement with animation. Between 1831 and 1906, a number of different devices to produce moving pictures were developed—the phenakistoscope, Horner's "wheel of life," the zoetrope, and so forth.

With the invention of the kinetoscope in 1891, Thomas Alva Edison opened a new era: his new device was a true motion-picture camera. In 1906, J. Stuart Blackton produced the first cartoon on motion picture film for the Vitagraph studios. It was so popular that many artists in America and Europe began working on animation projects. Earl Hurd is credited with inventing the modern animation technique of tracing moving parts of characters on transparent celluloid sheets and photographing them over opaque backgrounds. This eliminated the need for redrawing the background and characters for every frame.

Many made contributions to the advancement of the art . . . and then came Walt Disney, the master of them all. He began in 1920, but it was the first sound cartoon in 1928, "Steamboat Willie" (which introduced Mickey Mouse) that propelled the animated film into new heights of popularity. Among his many innovations, Disney recognized that color in animated films need not bear any resemblance to color in real life, that objects on the screen could be endowed with any pigmentation dictated by the imagination.

THE MODERN ERA OF ANIMATION

The modern era began with the creation of the storyboard. It was soon realized that written scripts alone could not convey the swift action and fantastic effects of the cartoon. Storyboards are a series of bold black-and-white sketches that show the story broken down into key moments; a storyboard conveys the pace, movement, and drama of a cartoon much as a comic strip does. Under each sketch in the series, the dialogue,

music cues, and visual effects are described.

Responsible for coordinating all the artistic elements that will go into the final movie, the director constantly refers to the storyboards as he confers with the principal production personnel. The "layout" people are the engineers and architects of the show: they stage the story with blue-prints; knowing the limitations of the camera, they provide drawings that serve as a guide in the painting of backgrounds. Backgrounds are the paintings over which the cels of the painted moving figures are placed; they are often comprised of several levels, each painted on a sheet of transparent material, and so can provide illusions of dimension and depth.

With the storyboard completed, story conferences past, layouts and backgrounds underway, the soundtrack—all the dialogue, music, and sound effects—is made. When the soundtrack is pronounced complete, the drawing of the moving characters can begin.

Script-writing for animation is very different from live-action writing. The dialogue must be much shorter and more concise with animation because the picture should not hold on a scene for more than a second or two. In live-action, facial movements and reactions can convey a lot of meaning, but not so in animation. The soundtrack for an animated movie must convey most of the emotion and information required to make a scene effective. The dialogue director makes, therefore, a vital contribution to the film.

The animator starts his work by referring to "model sheets." These show each of the characters in different positions and attitudes so that when the thousands of drawings are made, there will be consistency. The animator decides first how each character will move and then creates the "key" drawings for each scene. Assistant animators (or "in-betweeners") make the drawings that complete the action between the key drawings.

How many drawings are required? It all depends on the sound track. The track is "read" by the cutting department; the sounds of the words and actions are measured and entered on an "exposure sheet"—frame by frame. The animator then designs to fit the frame count of the needed action or word.

The animation drawings are first done in pencil on the "animation disc"—a drawing table with a glass top and a light beneath it; it permits the artist to see through several layers of thin paper, so he can overlay each drawing in a sequence to see that the drawings are properly related to one another. Then the drawings are transferred to celluloid either by hand inking or by the Xerox process. The cels then go to the paint department where the colors are applied by hand—to the side opposite the ink or Xerox outline so that the outline is emphasized. An opaque acrylic paint is used.

The completed cels and backgrounds are sent to camera to be photographed according to the set of meticulous instructions set down on the exposure sheet.

Upon completion of the photography, the film is synchronized to the soundtrack by the film editor with the use of a Movieola—an indispensible machine that permits simultaneous viewing of several reels of film and concurrent monitoring of several soundtracks. In live-action movie production it is not unusual to shoot five to ten times as much film as is finally used. But in animation, because so much of the work is done in pre-production planning, there is very little wasted film.

Finally, the edited film and sound tracks are sent to the lab for finished processing; the result is a color-corrected single print containing, for the first time in the procedure, both picture and soundtrack on the same piece of film.

ANIMATING *STAR TREK*

Filmation's production of *Star Trek* followed the basic principles of animation described above, but there were substantially greater than normal pressures on the creative and production staffs.

In order to maintain the same kind of control Gene Roddenberry and his assistants insisted upon with the live-action *Star Trek*, Filmation made Dorothy Fontana—Gene's story editor—associate producer and story editor of the animated series. She selected writers in a manner that maintained the quality and consistency of the original *Star Trek* concepts. Normally, animated cartoon shows for TV are written by "animation writers" who are versed in the peculiarities of the art form. But with *Star Trek*, fine science-fiction writers—under Dorothy Fontana's direction—provided the material, and the Filmation staff adapted that material to suit the animation technique. A perfect meld!

It was assumed that *Star Trek* fans would not accept substitutes or inaccuracies, so the staff made painstaking efforts to reproduce the likenesses of Kirk, Spock, McCoy, Uhura, Sulu, Nurse Chapel, Scotty and the others. Moreover, designing the alien characters and environments totally consumed the time and thought of Robert Kline, chief layout and character designer for the series. Some of his preliminary sketches are masterpieces of science-fiction art.

It was obviously desirable to use the voices of the original actors—as long as their likenesses were being used—and Filmation was fortunate enough to reassemble the original cast for the soundtracks. Generally, for an animated feature, the actors are called together to record the scenes just as actors do for a radio drama. But the conflicting schedules of the actors of *Star Trek* presented a real problem that was solved only with modern recording techniques. For one episode, Kirk (Bill Shatner) was in Los Angeles, while Spock (Leonard Nimoy) was in Boston. Leonard recorded his lines backstage at a theater in Boston, Bill recorded his here in Hollywood, and recording engineers dubbed the two together, editing each track word for word, syllable for syllable, to get just the right timing.

Another time, recalls Don Christenson, production manager for Filmation, soundtracks from all over the United States came in for an episode—each of the stars having engagements that prevented their recording together.

The high standards for accuracy and quality drove the costs of production up. It cost approximately $75,000 per episode and was one of the most expensive of TV animated series. But while financial concerns were important, it was the time factor that proved most frustrating.

The networks waited until April or May to give an order for a series that is to air that next September. They will usually order approximately 16 episodes with a number of re-run rights to cover the year. In order to meet the air-play deadlines for *Star Trek*, Filmation had to produce the series—totaling about eight hours of animation, the equivalent of four full-length feature films—in just six months. Disney Studios normally takes two years to make just one animated feature.

TELEVISION LIMITATIONS

There is one important difference, of course, between movie and television animation: television work today is produced in what is known as "limited animation," while something like Disney's *Snow White and the Seven Dwarfs*, or his *Fantasia*, are produced in "full animation." With full animation, a separate drawing is made for virtually every frame or 24 drawings for every second of film. Whenever you move your arm, other parts of your body and face also move in some fashion, and all of

these movements are captured with individual drawings. But with the pressures of limited TV budgets and schedules, limited animation must be employed. Here, when the arm moves, only the arm moves. A drawing of the body is placed before the camera without the arm. Then five or six separate drawings of arms in different positions are placed, one at a time, over the body drawing and filmed to produce the movement. While this often produces a jerky movement, other techniques—for example, camera panning and zooming—create an illusion of full-body movement to minimize the effects of the limitation.

Even with the use of limited animation, the time pressures on the *Star Trek* artists were horrendous—and the animated series has some bloopers to its credit . . . like the time someone in the paint department used Nurse Chapel's colors on Uhura, who turned Caucasian with the flip of a brush! Fortunately, that one was caught before the film reached the lab. But what about that scene from "Yesteryear," in which Spock points at Aleek-Om . . . with five fingers and a thumb? It's there now, for all to see. (It's also in number five of the collectors' series of hand-painted cels sold by Tuttle & Bailey Galleries.) Our attention was brought to it by a fan attending a *Star Trek* convention in Los Angeles. She shrieked it out and there was a mad rush to purchase the small supply at the convention. Presumably, the scene occurs so quickly on the screen that no one is likely to catch it. For each episode, 5000 to 7000 separate drawings were made by the 75 people who worked on the show. Some errors were inevitable.

Errors or no errors, limitations or no limitations, the show maintained an extraordinary standard of excellence and those who contributed to it share the honor presented to it by the Television Academy of Arts and Sciences—the coveted Emmy Award. It is now generally conceded that the art work in *Star Trek*, represented today by the cels and backgrounds, is classic and superlative. And collector's editions of those classic frames are now joining the early Popeye cels from Max Fleischer's cartoons, the cutsie Betty Boops, and the inimitable Disney cels, at galleries and art auctions.

THE FUTURE OF ANIMATION

Most animation in the United States today is produced—in the limited fashion—for television. There are some working in theatrical animation, innovators, contributing to the animation expertise of tomorrow: Norman MacLaren from the Canadian Film Board recently revolutionized animation with his "Dots and Loops"; Trnka from Czechoslovakia is the unrivalled master of animating puppets on film; John Whitney and his two sons have opened new horizons with their experiments with computer animation. But it seems sure that the future lies with TV mass consumption.

Walt Disney, several years before his death, reflected on the question of the future of animation: "The animation business has gone through enormous changes. You see a great many cartoons on TV today, but they are limited economically, just as we were in the early days. The animators are working on a shoestring, using the same 'cheating' tricks we used to because we couldn't afford not to. The results are that you see animation on TV that is neither fish nor fowl."

While this may sound pessimistic, all is not dark. More and more animated programs are creeping into "prime-time" television where the budgets are higher and the working schedules are longer. It could even be that with the new syndication release of the animated *Star Trek*, we will take another step toward the possibility of full animation for the youthful medium of television. For just as science fiction is ideally suited to animation, animation is ideally suited to the vibrantly colorful tube in almost everyone's home. ★

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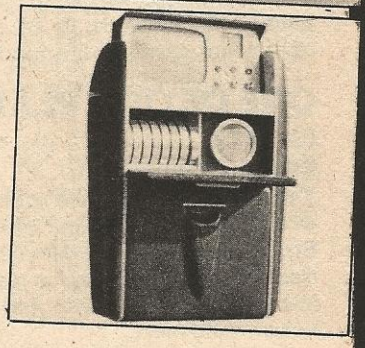

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COMPLETE EPISODE GUIDE

STAR TREK ANIMATED

Principal credits for *Star Trek* animated series from Filmation Studios:
Producers — Norm Prescott & Lou Scheimer
Associate Director — Dorothy Fontana
Director — Hal Sutherland
Art Director — Don Christensen
Principal Character and Layout Designers — Bob Kline & Herb Hazelton
Background color director — Irv Kaplan
Editor — Joe Simon
Music & Effects — Horta-Mahana
Camera Supervision — R.W. Pope
Plus a staff of Filmation animators and painters.

YESTERYEAR (9/15/73)
By D.C. Fontana
Upon return from a trip to the past through the Guardian of Forever, Kirk and Spock find that an Andorian has been First Officer of the *Enterprise* for the past five years and that no one knows who Spock is. Somewhere along the way, history has been changed. The *Enterprise* library computer tells them that Sarek and Amanda had a son, but the son was killed at the age of seven. To return history to normal, Spock has to return to Vulcan before his "death" to try to reweave the threads of history. He pretends to be a mysterious cousin who, he remembers, saved his life during his maturity ordeal.

ONE OF OUR PLANETS IS MISSING (9/22/73)
By Marc Daniels
The *Enterprise* is sucked into an enormous cloud that has drifted into the galaxy and has been devouring planets. While Scotty tries to fix the damage to the ship, Kirk and Spock discover that the cloud is in reality a sentient creature. Spock attempts to communicate with the creature via the dangerous Vulcan mind meld.

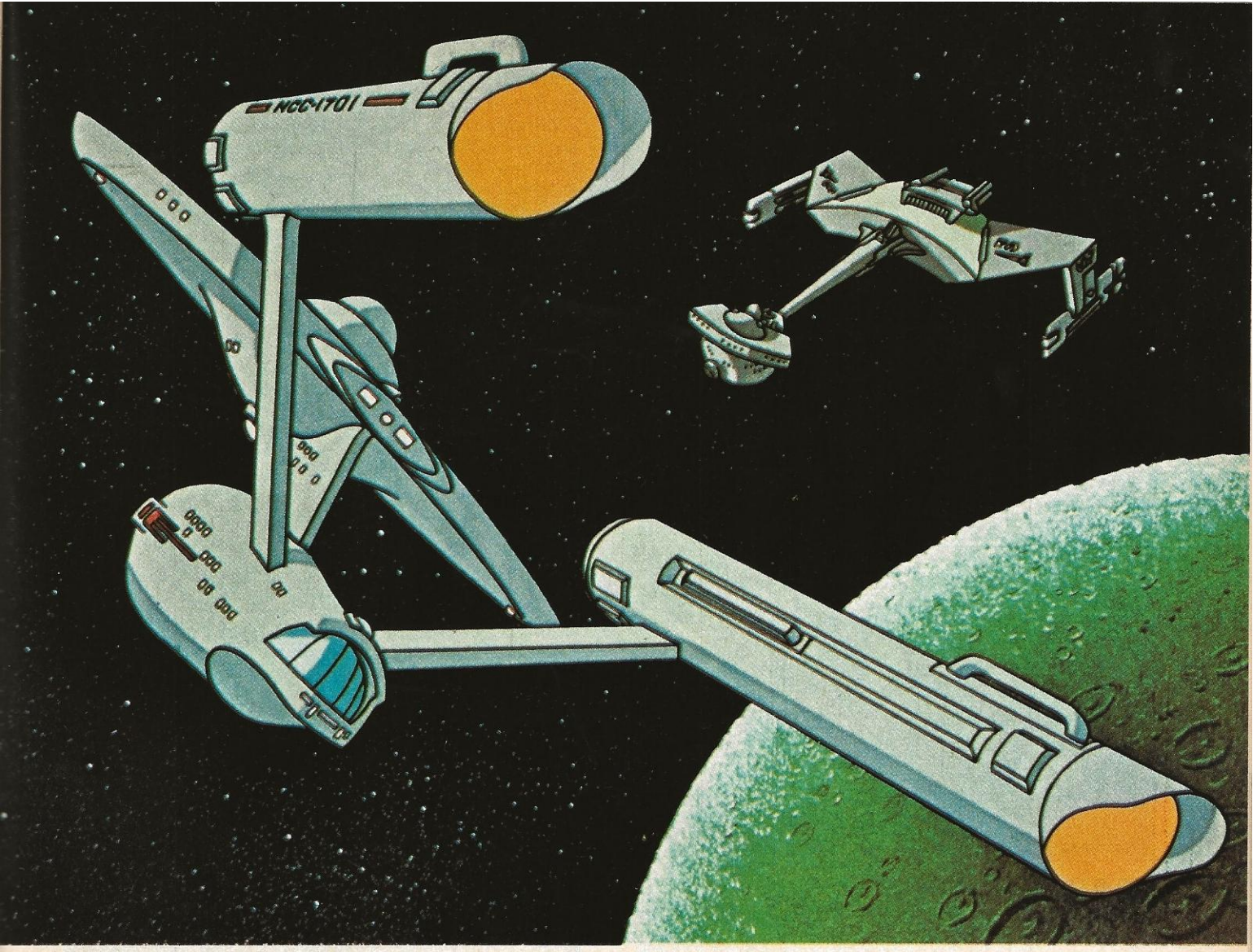
THE LORELEI SIGNAL (9/29/73)
By Margaret Armen
The men of the *Enterprise* are overcome by a mysterious signal from the Taurean system. On beaming down to the planet, they are met by beautiful women who first feed and entertain the men, and then drug them into unconsciousness. They awake to find that they are all wearing jeweled headbands that are draining away their life forces and aging them very rapidly. It is then up to the women of the *Enterprise* to save their shipmates.

MORE TRIBBLES, MORE TROUBLES (10/6/73)
By David Gerrold
Cyrano Jones turns up again, this time with a Klingon battle cruiser hot on his trial. Again he's transporting tribbles, but these he insists, don't reproduce. They *do* get big, however. At one point, Kirk finds a 200 pound tribble happily ensconced in his command chair. Jones has also stolen a genetic construct called a *glommer,* which the Klingons invented to eat the tribbles. After the Klingons attack, demanding Jones as a prisoner, Kirk says he'll give them the *glommer,* but not Jones.

THE SURVIVOR (10/13/73)
By James Schmerer
Kirk orders the only survivor of a battered one-man ship beamed aboard. It turns out to be a man named Carter Winston, whose fiancee, Anne Nored, is aboard. Winston informs her, however, that he has changed his mind and can't marry her. It later develops that the man is in reality a Vendorian, capable of assuming any shape it wishes. The Vendorians are also well known for their treachery and deviousness. Kirk decides that the alien has been sent by the Romulans as a spy and orders the alien's arrest, but the Vendorian escapes and drives the ship into the Federation/Romulan neutral zone, giving the Romulans an excuse to attack.

THE INFINITE VULCAN (10/20/73)
By Walter Koenig
On a strange planet populated by plant-like beings, the *Enterprise* landing party is confronted with a huge human, Dr. Keniclius 5, who demands Spock as a hostage to be cloned into an immortal giant like Dr. Keniclius. Kirk is then faced with trying to logically convince the huge, unfriendly Spock to try to save the original Spock, who is dying.

THE MAGICKS OF MEGAS-TU (10/27/73)
By Larry Brody
The *Enterprise* is caught in a matter/energy storm and transported into a totally alien universe, where none of the normal systems aboard the ship will work. A being called Lucien materializes on the bridge and magically reactivates everything. The crew finds that they too have magic powers, but when they use them, they are detected by the people of Megas-Tu, who imprison the crew and Lucien. Lucien is then put on trial for bringing evil into the world of the Megans, and Kirk defends him with his life.



The *Enterprise* and a Klingon vessel head for a confrontation.

ONCE UPON A PLANET (11/3/73)

By Len Jenson and Chuck Menville

For rest and recreation, the *Enterprise* returns for another "shore leave." This time, however, the threatening illusions persist in spite of everything people try to do to stop them. Kirk orders the crew back to the ship, but Uhura doesn't return with the others. When Kirk and Spock return to the planet to find her, they also find that the Keeper (the man who maintained the giant computer) has died and that the computer has come to resent its role as a servant. Spock and Kirk must then attempt to logically convince the computer to call off the unpleasant and dangerous illusions.

MUDD'S PASSION (11/10/73)

By Stephen Kandel

Interstellar con-man Harry Mudd is reluctantly rescued by Kirk in order to save him from angry miners in the Acadian star system. It seems he was selling a fake love potion and using a reptilian illusion-maker, disguised as a beautiful woman, to prove the value of his goods. Anxious to escape, he gives some of this potion to Nurse Chapel to use on Spock and then steals a shuttle craft. Humiliated, Nurse Chapel tries to recapture Mudd, but ends up a hostage herself. Much to everyone's dismay and Mudd's astonishment, the potion turns out to be real, with Spock frantically trying to rescue his beloved Nurse Chapel.

THE TERRATIN INCIDENT (11/17/73)

By Paul Schneider

While investigating a mysterious signal from a planet in the Cepheus system, a bolt of energy flashes through the *Enterprise* and temporarily paralyzes everyone. After the paralysis passes, Scott reports that the engines have suffered severe damage and that all organic matter is rapidly shrinking in size. When Kirk beams down to the planet, he is returned to full size. He discovers a miniature city but before he can investigate, he is returned to the *Enterprise* because the transporter is on automatic recall. He finds that his crew has been transported out of the ship and threatens to destroy the miniature city unless its leaders return his crew.

TIME TRAP (11/24/73)

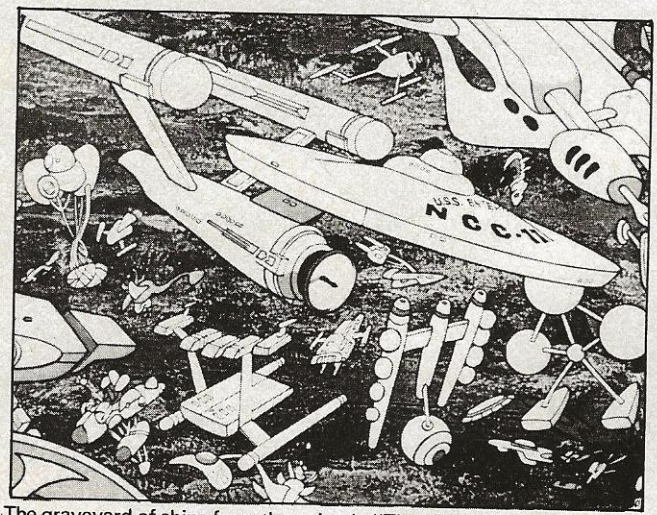
By Joyce Perry

The *Enterprise* and the Klingon cruiser *Klothos* stumble into a time warp where they find ships and peoples from every inter-stellar civilization. Their leader, a Romulan named Xerius, tells the two captains that since they are trapped in the warp, all the people have had to learn to cooperate and live together in peace. Since the dilithium crystals on both ships are breaking down, Kirk and the Klingon commander agree to link the two ships together in order to reach the breakaway speed of Warp 8. The Klingons meanwhile have planted a bomb on board the *Enterprise* designed to explode as soon as the two ships return to their home universe.

THE AMBERGRIS ELEMENT (12/1/73)

By Margaret Armen

The *Enterprise* goes to study Argo, a planet almost completely covered with water following ancient seismic disturbances which caused the land masses to sink. A shuttlecraft is attacked by a sea monster. McCoy and Lt. Clayton are thrown clear, but Kirk and Spock are trapped in the craft which disappears underwater with the monster. Five days late, search parties find the two, who have suddenly been transformed into water-breathers. Since they have no memory of the change, the two officers descend into the depths and soon meet other water people who call themselves Aquans. To their surprise, though, they are arrested and brought to trial because the ancient records state that air-breathers are all warlike and never come in peace.



The graveyard of ships from the episode "Time Trap."

SLAVER WEAPON (12/15/73)

By Larry Niven

Spock, Uhura, and Sulu are taking a relic of an ancient warrior civilization, the Slavers, from the planet Kzin to Starbase 25. The relic is a stasis box, which preserves its contents in a time-free environment. Federation scientists use the boxes for information about the Slavers and also to find other stasis boxes. When the box aboard the shuttle begins to indicate the proximity of another box, Spock decides to investigate a planet in the Beta Lyrae system, only to find a party of the cat-like Kzin. The three officers are taken prisoner and the captain of the Kzin proceeds to tamper with one of the deadly artifacts that was in the stasis box, putting everyone in grave danger.

BEYOND THE FARTHEST STAR (12/22/73)

By Samuel A. Peeples

While investigating strange radio emissions from the very edge of the galaxy, the *Enterprise* is captured by the titanic gravitational pull of a negative star mass and only narrowly avoids collision with the object. Locked into orbit around the star, the crew discovers another spaceship also held prisoner, but this ship is so huge that the *Enterprise* is a mere speck in comparison. Kirk, Spock, McCoy, and Scotty beam aboard to discover that the ship was built by an insect-like civilization but was invaded by an intelligent, malevolent energy being. The boarding party quickly returns to the *Enterprise* only to bring the being back with them, where it immediately takes over the ship. Kirk decides, like the unlucky insect captain before him, that he must try to destroy his ship rather than infect the rest of the galaxy. The *Enterprise* then changes course to dive directly toward the star.

THE EYE OF THE BEHOLDER (1/5/74)

By David P. Harmon

A landing party on Lactra VII is captured by slug-like creatures and put on display in a zoo. The creatures turn out to be so far advanced intellectually that even Spock's strongest attempts at telepathy are merely sources of amusement to the Lactrans. Spock finally manages to communicate with a Lactran child and convince it to give them one of the communicators. The ruse is discovered just as the child is accidentally transported to the *Enterprise.* The child's parents meanwhile are using punishing mental force on Kirk to get their baby back.

JIHAD (1/13/74)

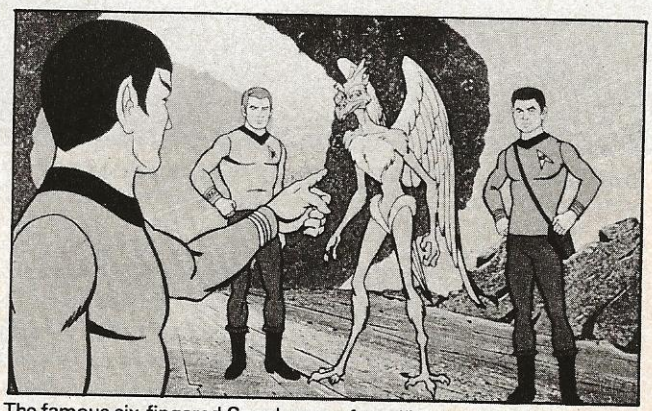
By Stephen Kandel

A diverse group of beings is assembled for a top-secret mission to look for a priceless religious relic that has been stolen from the people of Skorr. If the relic is discovered missing, a jihad (Holy War) will erupt throughout the galaxy. The company led by Kirk and Spock is transported to a wild, unstable planet where the relic is believed to be located, but after several bizarre incidents, Kirk and Spock decide that there is a traitor in their midst.

THE PIRATES OF ORION (9/7/74)

By Howard Weinstein

Spock is infected with a rare blood disease, which is a nuisance to humans but is fatal to Vulcans. The only known cure is *strobolin,* but the only source within reach is four solar days away. An arrangement is made with a freighter to pick up a quantity of the drug and meet the *Enterprise* half-way. While en route, however, the freighter is attacked by Orion pirates, who steal the drug and a shipment of dilithium crystals. The *Enterprise* takes off in pursuit, but Spock is growing progressively weaker.



The famous six-fingered Spock scene from "Yesteryear."

BEM (9/14/74)

By David Gerrold

A landing party on the newly discovered Delta Theta III is accompanied by an independent observer, Commander Ari bn Bem of the planet Pandro. Bem immediately switches Kirk's and Spock's weapons for dummies and then proceeds to get himself captured by the local population. Kirk and Spock are soon captured themselves. To their astonishment, Bem disassembles his body, leaves his cage, returns Kirk's and Spock's weapons to them, and then reenters his own cage again. He tells them that they are now to prove the Federation's usefulness to Pandro by releasing him with their own skills and without any help from him. Meanwhile, the ground party has been cut off from the ship by a powerful electric field that has gradually encircled the planet. Then from the field comes a voice of a powerful being that calls itself a god, and demands that they get off her planet immediately. Unfortunately, Bem has once again escaped from them, and they can't leave without him.

Kirk and Spock defend devil-like Lucien, in "The Magicks of Megus-Tu."

PRACTICAL JOKER (9/21/74)

By Chuck Menville

The *Enterprise* is attacked by two Romulan ships with photon bombs. Unable to defend itself against the powerful assault, Kirk orders the ship into a mysterious cloud. After passing through the cloud, everything on the ship begins to go haywire, but in comic ways: forks wilt, glasses leak, and Scott is showered with fruit by a vending machine. Then the tone of the "jokes" becomes more serious when the crew learns that the practical joker is the on-board computer. The final threat comes when the computer reverses course and sends the ship directly back toward the hostile Romulan ships.

ALBATROSS (9/28/74)

By Dario Finelli

Upon returning to Dramia to deliver a shipment of medical supplies, McCoy is arrested for the mass murder of the population of Dramia II. McCoy had indeed been to the planet nineteen years before to head a mass inoculation program in order to combat Saurian virus. After he left, a plague broke out and decimated the population. Even McCoy wonders if there might not be some truth in the charge. Kirk and Spock go to Dramia II, where they find someone who is willing to testify on McCoy's behalf. On the way back to Dramia, however, the entire crew except Spock (Vulcans being naturally immune to the disease) falls victim to the plague.

Source: *The Star Trek Concordance* by BJO TRIMBLE, © 1976 by Paramount Pictures Corporation and Bjo Trimble (Ballantine Books; $6.95)

HOW SHARPER THAN A SERPENT'S TOOTH (10/5/74)

By Russell Bates and David Wise

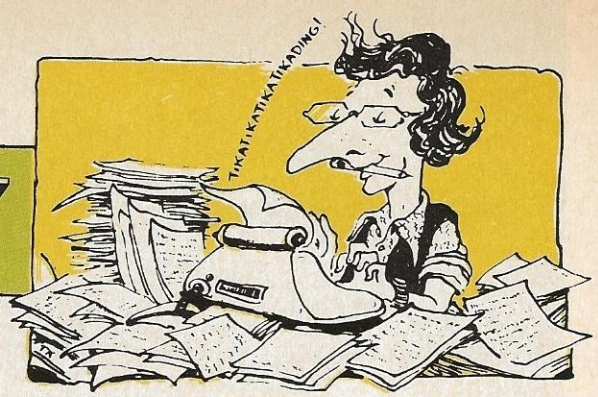
The *Enterprise* has been following the trail left by an unidentified space probe when it is suddenly held powerless in an energy globe and Kirk, McCoy, Scott, and Ensign Dawson Walking Bear are transported to a strange planet. There they are told they must solve a puzzle or the crew of the *Enterprise* will die. When they solve the problem, the being holding them prisoner materializes before them: it is the ancient Mayan/Aztec god Kulkukan in the form of a winged serpent. The god is angry at having been forgotten and puts the group in his own private zoo. Spock, meanwhile, is working frantically to get the *Enterprise* out of the energy field.

THE COUNTER CLOCK INCIDENT (10/12/74)

By John Culver

The *Enterprise* is carrying two special passengers: the first commander of the ship, Commodore Robert April, and his wife, Dr. Sarah April. They are being transported toward Babel for the Aprils' retirement ceremonies when an alien starship flashes by at the impossible speed of Warp 36. Since the ship is heading directly toward the dangerous Beta Niobe nova, Kirk tries to stop it with a tractor beam. Suddenly, the *Enterprise* itself is locked onto the speeding craft and is pulled through the nova into a reverse universe: white space and black stars. The commander of the other ship agrees to help the *Enterprise* get back into its own universe, but Commodore April has to take control of the ship, since everyone in this universe ages backwards. The rest of the crew has reverted into children and have forgotten how to pilot the ship.

STATE OF THE ART



A column of opinion by David Gerrold

There was a convention a few years back, I don't remember where or which one—just a vague memory that it was one of those small and unmemorable science-fiction conventions in the days before they became circuses—and there was this little old, blue-haired lady who came up to me and asked, "Where do you science-fiction writers get all of your crazy ideas?"

—which immediately identified her as a *fringie*, or a *mundane*. She was day-tripping here, and obviously wasn't seriously interested in science fiction. She was *larking*, as my Irish friends would put it. Having no idea of the scope and range of science fiction, she was dazzled and bewildered by everything she saw, so she asked *that* question—

So, I said, without half-thinking, "From the Official Science Fiction Writers' Idea Book." It was a silly, off-the-wall idea.

"Oh," she said, obviously delighted; her eyes were all atwinkle. (Have you ever seen a little old, blue-haired lady with her eyes all atwinkle? It's like Christmas at Julie Andrews' house.) She said, "Where do you get a copy of the Official Science Fiction Writers' Idea Book?"

A few people had turned, startled, when I had answered her first question, and I could see a small group forming. Never one to resist an audience, I said. "It's a service of the Science Fiction Writers of America. Only members of the SFWA can get copies." I said it with a straight face, and she believed me. So, I added, "You see, every year, each member sends in three ideas. These ideas are published all in one big book and copies are sent out to each member of the organization. When you're ready to write a story, you look through it, pick out an idea you like, and then you either call or write the secretary of the organization and reserve that idea for your own. If you're going to do a short story, you have three months to complete it, otherwise the idea then goes on to the next person on the list—some ideas have a waiting list for them. You get six months for a novella, nine for a whole novel. If you sell the novel to a publisher before you finish it, then the idea is automatically yours; a sale confirms your right to the idea. You're only allowed to reserve three ideas at a time, you're not allowed to reserve an idea until you've used up one of your three. Or unless you're willing to trade one in." I added, in a lower voice, conspiratorially, "Did you know that Robert A. Heinlein wasn't the first writer to write *Stranger in a Strange Land*? Harlan Ellison and Phillip K. Dick both tried to do it before he did, but neither one of them could finish it—Heinlein was actually third on the list."

"My goodness," she said. Behind her, someone was choking as he tried to muffle his own laughter. She didn't hear. "What if you want to write an idea that isn't in the book?"

"Oh, well, then you can't call it science fiction. Kurt Vonnegut, Jr. wrote *The Sirens of Titan* and that wasn't in the idea book. The whole organization was very upset with him—and he hasn't been allowed to call anything of his science fiction ever since. You can only call it science fiction if it comes from the official book. They're *very* strict about it."

She was fascinated. "How can I get a copy of the book?"

"Oh, you can't. You have to be a member of the SFWA—the Science Fiction Writers of America."

"Oh, well—how do I join the SFWA?" she asked.

"You have to sell a science-fiction story to one of the magazines or anthologies, or a science-fiction novel. Then you can join. After you join, you'll get a copy of the book."

"But—if I write a story that isn't in the idea book, I can't call it science-fiction—?!!"

"That's right," I said. "It's a very tough organization to get into." And that was when the whole crowd dissolved in laughter.

It was a harmless enough put-on, and whether or not she ever figured out the truth, even the little old, blue-haired lady was delighted at the concept of an official idea book for Science Fiction writers—in fact, in subsequent retellings of the incident to other writers, they, too, have been fascinated and have added bits and pieces of their own lore to the workings of the mythical idea book. Since that time, the legend of the SFWA idea book is one that goes on by itself. With each retelling, it grows a little and gains a little more mystique.

But if I didn't exactly answer the little old, blue-haired lady's original question about where ideas come from, I had served her something better—a demonstration of how an idea is nurtured.

She kept asking me questions. I kept answering them. I was making up my answers, to be sure, but I tried to make them sound as *believable* as possible. I was lying—I was lying *outrageously*—but she believed me, because I was *sounding* believable.

I made my lies dovetail with the truth—that business about Heinlein, for instance, and *Stranger In A Strange Land*—she knew that Heinlein actually had written such a book. Mentioning a fact that she could confirm lent the whole structure an air of verisimilitude.

And that's what fiction writing is all about.

A fiction writer is a liar, an outrageous liar, a skillful liar—but a liar nonetheless. He is telling you things that never happened about people who never lived. And you believe him, because you want to believe him—and because he is answering all your questions before you can ask them; because he has already asked those same questions of himself. He has made up the most believable sounding answers to those questions. A science-fiction writer will go burrowing through stacks of research volumes so he can give you all kinds of scientific justification for his lies. The science part of the lie is always true, of course; you can even test it; and this is one of the best techniques of all for liars: put the lie in a setting of truth—if people believe the setting, they'll believe the rest of the lie, too.

Let me demonstrate how this works in actual practice. I have a new novel out called *Moonstar Odyssey*. (It's a paperback from New American Library,

EDITOR'S NOTE—

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Signet Books.) It takes place on the planet Satlin, a world which was just a barren airless rock until it was colonized by human beings. Today, it has an ocean and an atmosphere—

"Wait a minute," you interrupt. "Where did the ocean come from? And the atmosphere?"

"Oh, well—the process is called Terraforming—" I, the liar, answer. "You see, there were these convenient ice-asteroids. And the colonists, before they landed, realized they'd need an ocean—so they moved some of these ice-asteroids out of orbit and aimed them so they'd fall onto their planet and—"

"Hold on," you interrupt again, pulling out your calculator. "An ice-asteroid twenty kilometers in diameter, besides making one helluva hole in the planet, would only have enough water to cover the surface of the planet to the depth of one centimeter—"

"Well, yes, of course, you're right," I answer, somewhat taken aback at your scientific background. "But the water isn't spread equally over the whole planet, it flows to the deeper places, of course. And besides, they used seven asteroids. And besides, when these asteroids hit the planet, they gave it a pretty good jolt—they opened up vents into its interior, which released billions of tons of gases; fortunately, there was a lot of water locked up in the interior of the planet's crust, and that water was released, too; in fact, that's where most of the water came from. So, although the oceans are fairly shallow—and fresh water, too—the oceans are still big enough to sail upon and deep enough to be dangerous."

"Well, all right," you say. "I'll accept that. But how about all the plant and animal life. Where did that come from?"

"The colonists brought it with them, of course. They're very skilled at genetic tailoring. They've been releasing one or two species at a time into the ecology. Because of that, they have a totally *managed* ecology, of course.

"Well, wait a minute—if these plants and animals are from Earth they're keyed to the Terran day-night cycle. Are you telling me this planet has an identical rotation to Earth?"

"Of course not. It's more than twice as long, a day and a night are about fifty hours."

"Well, that's no good—" you say, quite correctly. "The day would be too hot, and the night would be too cold."

"Of course," I answer, lying through my teeth again. "But they have these gigantic shields up in the sky. They're in orbit, like synchronous satellites. The colonists live under the shielded areas. A shield makes an eclipse of several hours in the middle of each long day, splitting it into two shorter days with a short night between them. The shield also works as a big mirror on the night-side, so there's a short day between two long nights; it's called *darkday*."

"Wait a minute," you say. "A shield that big would be hit by so much light from the sun that it would be like a gigantic sail. Light pressure, the wind from the sun, would push it out of orbit in less than a day."

"You're absolutely right," I say. "But these shields aren't made like giant sails—they're plasmas, optically thick, and they're held in place by gigantic magnetic focusing fields. Two satellites focus each shield into place, and that's why each shield is elliptical. (An ellipse is the locus of all points equidistant to two foci.) Light pressure effects are negligent."

"Ah ha, very clever," you say. "But what about—"

And that's as far as you get, because I have just put a stake through your heart for interrupting me once too many times.

Except for the stake, that's the way it works, that's how a story gets written—both halves of the conversation take place inside the writer's head. One part of him—the reader part—keeps asking questions, the other part—the liar—keeps answering. You keep questioning and I keep running to the reference library to figure out new ways to convince you that my lie is real. Once I've convinced you that the planet is possible, then you'll shut up long enough for me to tell you the real story about the people who live on it.

Of course, the questioning never stops—you're going to want to know what changes living on such a planet is going to effect in the people's daily lives—and I'm going to have to think it out and answer your question—and that's where my story will come from.

Ted Sturgeon calls it "asking the next question." It is only by asking the next question that you can build a world, build an ecology, build a culture, and tell a story. The question is, "What happens next?" Or, "How is that so?" Or, "Who does it hurt?" But the closer your answers correspond to what the reader already knows is true—in the way planets work or in the way people work—then the more he will believe your story.

None of that can be put into any idea book. It's not the idea anyway that's important—it's how the writer takes it and develops it and answers all your questions before you can ask them. So it isn't *where* you get the idea that counts—it's what you do with it *after* you've got it. It isn't the originality of the lie that makes a good writer—it's his skill in dressing it up.

And after all, isn't that what lying really is—storytelling? ★

FUTURE CONVENTIONS

Here is the latest information on upcoming conventions. Since the main emphasis of a convention is not always easily discernable from its title, we are including a notation after each one to help clarify what kind of con it is. **Star Trek** cons are denoted with (ST); science fiction cons will have (SF). Other cons will also be appropriately labeled. As usual, guests and features for most conventions are subject to last minute changes; for final details check with the person or organization listed.

STAR CON DENVER (ST & SF)
May 7-8, 1977

Denver, Colorado

Star Con Denver
P.O. Box 19184
Denver, CO 80219

MINI-TREK CON III
May 15, 1977

New York City

Mini-Trek Con
c/o Len Katz
109-14 Ascan Avenue
Forest Hills, New York 11375

HOUSTONCON '77 (SF Films)
June 22-26, 1977

Houston, Texas

Houstoncon '77
2312 Bissonnet Street
Houston, TX 77005

STAR TREKON '77 (ST)
June 24-26, 1977

Overland Park, Kansas

Star Trekon '77
P.O. Box 7188
Shawnee Mission, Kansas 66207

WESTERCON 30 (SF)
July 1-4, 1977

Vancouver, British Columbia

Westercon 30
Box 48701,Stn. Bentall
Vancouver, B.C. Canada

ASTRA CON (SF)
July 2-4, 1977

Boston, Massachusetts

Astra Con
P.O. Box 200
Worcester, Massachusetts 01602

STAR TREK PHILADELPHIA (ST)
July 15-18, 1977

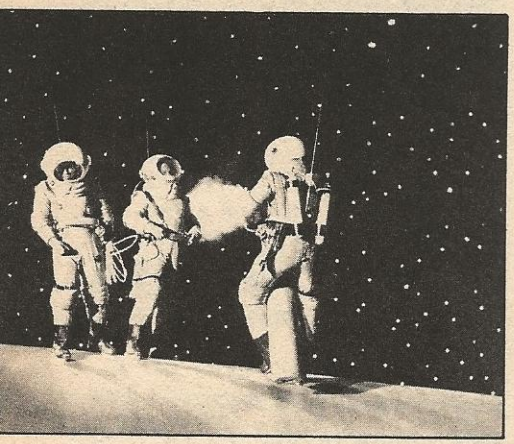
Philadelphia, Pennsylvania

Star Trek Philadelphia
c/o Tri-Star Industries
88 New Dorp Plaza
Staten Island, New York 10306

(Continued from page 24)

dle of the explosions the radio decided to blow a tube—and the action stopped, ruining an afternoon's work. We had to come back and do it over the next day, after a sleepless night of rebuilding by the special-effects crew. Such things are why making motion pictures produces stomach ulcers but not boredom.

The greatest single difficulty we encountered in trying to fake realistically the conditions of space flight was in producing the brilliant starry sky of empty space. In the first place nobody knows what stars look like out in space; it is not even known for sure whether twinkling takes place in the eye or in the atmosphere. There is plausible theory each way. In the second place the eye is incredibly more sensitive than is Technicolor film; the lights had to be brighter than stars to be picked up at all. In the third place, film, whether used at Palomar or in a Technicolor camera, records a point light source as a circle of light, with diameter dependent on intensity. On that score alone we were whipped as to complete realism; there is no way to avoid the peculiarities inherent in an artificial optical system.



We fiddled around with several dodges and finally settled on automobile headlight bulbs. They can be burned white, if you don't mind burning out a few bulbs; they come in various brightnesses; and they give as near a point source of light as the emulsions can record—more so, in fact. We used nearly two thousand of them, strung on seventy thousand feet of wire.

But we got a red halation around the white lights. This resulted from the fact that Technicolor uses three films for the three primary colors. Two of them are back to back at the focal plane, but the red-sensitive emulsion is a gnat's whisker away, by one emulsion thickness. It had me stumped, but not the head gaffer. He covered each light with a green gelatine screen, a "gel," and the red halation was gone, leaving a satisfactory white light.[5]

The gels melted down oftener than the bulbs burned out; we had to replace them each day at lunch hour and at "wrap up."

There was another acute problem of lighting on the lunar set. As we all know, sunlight on the Moon is the harshest of plastic light, of great intensity and all from one direction. There is no blue sky overhead to diffuse the light and fill the shadows. We needed a sound-stage light which would be as intense as that sunlight—a single light.

No such light has ever been developed.

During the war, I had a research project which called for the duplication of sunlight; I can state authoritatively that sunlight has not yet been duplicated. An arc light, screened by Pyrex, is the closest thing to it yet known—but the movies already use arc lights in great numbers, and the largest arc light bulb, the "brute," is not nearly strong enough to light an entire sound stage with sunlight intensity—raw sunlight, beating down on the lunar set would have been equivalent to more than fifteen hundred horsepower. There are no such arc lights.

We traced down several rumors of extremely intense lights. In each case we found either that the light was not sufficiently intense for an entire sound stage, or it was monochromatic—worse than useless for Technicolor.[6]

We got around it by using great banks of brutes, all oriented the same way and screened to produce approximate parallelism. Even with the rafters loaded with the big lights almost past the safety point, it was necessary to use some crosslighting to fill gaps. The surface of the Moon had some degree of "fill" in the shadows by reflection from cliff walls and the ground; it is probable that we were forced to fill too much. We used the best that contemporary engineering provides—and next time will gladly use an atomic-powered simulation of the sun's atomic-powered light.

The simulation of raw sunlight was better in the scenes involving men in spacesuits outside the ship in space, as it was not necessary to illuminate an entire sound stage but only two or three human figures; a bank of brutes sufficed and no fill was needed, nor wanted, since there was no surrounding landscape to fill by reflection.

The effect was rather ghostly; the men were lighted as is the Moon in half phase, brilliantly on one side, totally unlighted and indistinguishable from the black sky itself on the other side.

This scene in which men are outside the ship in space involved another special effect—the use of a compressed oxygen bottle as a makeshift rocket motor to rescue a man who has floated free of the ship. The energy stored by compressing gas in a large steel bottle is quite sufficient for the purpose. I checked theory by experiment; opening the valve wide on such a charged bottle gave me a firm shove. The method is the same as that used to propel a toy boat with a CO_2 cartridge from a fizz water bottle—the basic rocket principle.[7]

We had considered using a shotgun, since everyone is familiar with its kick, but we couldn't think of an excuse for taking a shotgun to the Moon. Then we considered using a Very pistol, which has a strong kick and which might well be taken to the Moon for signalling. But it did not *look* convincing and it involved great fire hazard in a sound stage. So we settled on the oxygen bottle, which looked impressive, would work, and would certainly be available in a spaceship.

However, since we were still on Las Palmas Avenue and not in space, it had to be a wire trick, with four men on wires, not to mention the oxygen bottle and several safety lines. That adds up to about thirty-six wires for the heavy objects and dozens of black threads for the safety lines—and all this spaghetti must not show. Each man had to have several "puppeteers" to handle him, by means of heavy welded pipe frames not unlike the cradles used by Tony Sarg for his marionettes, but strong enough for men, not dolls. These in turn had to be handled by block and tackle and overhead traveling cranes. Underneath all was a safety net just to reassure the actors and to keep Lee Zavitz from worrying; our safety factor on each rig was actually in excess of forty, as each wire had a breaking strength of eight hundred pounds. To top it off each man had to wear a cumbersome, welded iron, articulated harness under his spacesuit for attachment of wires. This was about as heavy and uncomfortable as medieval armor.

The setups seemed to take forever.

(Continued on page 56)

[5] The *star field* effect achieved by this process is quite similar to the image produced by a Zeiss planetarium projector, such as the one used for sky shows by the Haydn Planetarium in New York.

[6] Arc lighting is still the finest and most efficient light source produced from a pin point and focused through a lens. Since the days of the Molearc Brute (still in common use today), the Titan has been produced. This puts out twice as much light and draws 350 amperes as compared with 225 for the Brute. If a movie were being filmed today that required sunlight to be simulated on a sound stage, the same technique conceived for *Destination Moon* would be used with Titans replacing the Brutes.

[7] America's first space walk was taken by astronaut Ed White during the Gemini IV mission, June 1964. He was attached to the Gemini vehicle by an eight-meter umbilical cord and used a hand-held propulsion unit for maneuvering in space.

For the Gemini IX mission (June 1966), NASA scientists had developed a more sophisticated "Astronaut Maneuvering Unit." This was a backpack affair weighing about two and a half pounds which, due to its bulk, had to be donned in space. One of Astronaut Eugene Cernan's main experiments during that mission was to put on and use the unit. However, the effort to get the unit harnessed to his back proved to be completely exhausting and the experiment was abandoned.

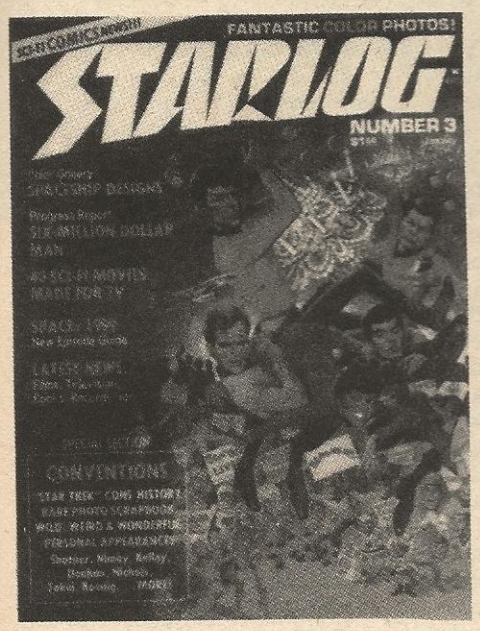
On the next Gemini mission the hand-held propulsion device was again in use.

No. 1—"Star Trek" Episode Guide, Shatner, Nimoy Articles.

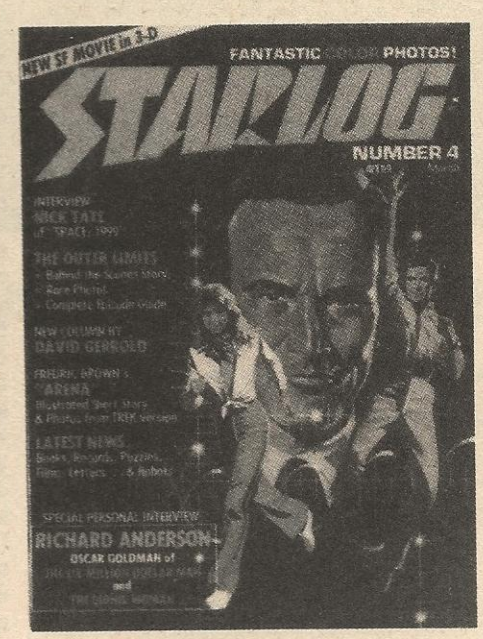
No. 2—"Space 1999" Year 1 Guide, "War of the Worlds," etc.

YOUR GUIDEBOOK TO THE WORLDS OF SCIENCE FICTION

No. 5— 3-D Part 2, "UFO" Guide, "Trek" Censored, Space Art.



No. 3— Conventions, Spaceships, "1999" Year 2, SF TV Movies.



No. 4—"Outer Limits" TV Guide, "Arena" and Nick Tate Talks.

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(Continued from page 54)

Actors would have to be up in the air on wires for as long as two hours just to shoot a few seconds of film. For ease in handling, the "oxygen bottle" was built of balsa wood and imbedded in it was a small CO_2 bottle of the fire extinguisher type. This produced another headache, as, after a few seconds of use, it would begin to produce carbon dioxide "snow," which fell straight down and ruined the illusion.

But the wires were our real headache. One member of the special-effects crew did nothing all day long but trot around with a thirty-foot pole with a paint-soaked sponge on the end, trying to kill highlights on the wires. Usually he was successful, but we would never know until we saw it on the screen in the daily rushes. When he was not successful, we had to go back and do the whole tedious job over again.

Most of creating the illusion of space travel lay not in such major efforts, but in constant attention to minor details. For example, the crew members are entering the air lock to go outside the ship in free fall. They are wearing "magnetic" boots, so we don't have to wire them at this point. Everything in the air lock is bolted down, so there is nothing to spoil the illusion of no up-and-down. Very well—"Quiet, everybody! Roll 'em!"

"Speed!" answers the sound man.

"Action!"

The actors go to the lockers in which their spacesuits are kept, open them—and the suits are hanging straight down, which puts us back on Las Palmas Avenue! "Hold it! Kill it! Where is Lee Zavitz?"

So the suits are hastily looped up with black thread into a satisfactory "floating" appearance, and we start over.

Such details are ordinarily the business of the script girl who can always be depended on to see to it that a burning cigarette laid down on Monday the third will be exactly the same length when it is picked up on Wednesday the nineteenth. But it is too much to expect a script girl to be a space flight expert. However, by the end of the picture, our script clerk, Cora Palmatier, could pick flaws in the most carefully constructed space yarn. In fact, everybody got into the act and many flaws were corrected not because I spotted them but through the alertness and helpfulness of others of the hundred-odd persons it takes to shoot a scene. Realism is compounded of minor details, most of them easy to handle if noticed. For example, we used a very simple dodge to simulate a Geiger counter—we used a real one.

A mass of background work went into the flight of the spaceship *Luna* which appears only indirectly on the screen. Save for the atomic-powered jet, a point which had to be assumed, the rest of the ship and its flight were planned as if the trip actually were to have been made. The mass ratio was corrected for the assumed thrust and for what the ship was expected to do. The jet speed was consistent with the mass ratio. The trajectory times and distances were all carefully plotted, so that it was possible to refer to charts and tell just what angle the Earth or the Moon would subtend to the camera at any given instant in the story. This was based on a precise orbit—calculated, not by me, but by your old friend, Dr. Robert S. Richardson of Mount Wilson and Palomar Mountain.

None of these calculations appears on the screen but the results do. The *Luna* took off from Lucerne Valley in California on June 20th at ten minutes to four, zone eight time, with half Moon overhead and the Sun just below the eastern horizon. It blasted for three minutes and fifty seconds and cut off at an altitude of eight hundred seven miles, at escape speed in a forty-six-hour orbit. Few of these data are given the audience—but what the audience sees out the ports is consistent with the above. The time at which they pass the speed of sound, the time at which they burst up into sunlight, the Bonestell backdrops of Los Angeles County and of the western part of the United States, all these things match up. Later, in the approach to the Moon, the same care was used.

". . . making motion pictures produces stomach ulcers but not boredom."

Since despite all wishful thinking we are still back on Las Palmas Avenue, much of the effect of taking off from Earth, hurtling through space and landing on the Moon had to be done in miniature. George Pal was known for his "Puppetoons" before he started producing feature pictures; his staff is unquestionably the most skilled in the world in producing three-dimensional animation. John Abott, director of animation, ate, slept, and dreamed the Moon for months to accomplish the few bits of animation necessary to fill the gaps in the live action. Abbott's work is successful only when it isn't noticed. I'll warrant that you won't notice it, save by logical deduction, i.e., since no one has been to the Moon as yet, the shots showing the approach for landing on the Moon *must* be animation—and they are. Again, in the early part of the picture you will see the *Luna* in Lucerne Valley of the Mojave Desert. You know that the ship is full size for you see men climbing around it, working on it, getting in the elevator of the gantry crane and entering it—and it *is* full size; we trucked it in pieces to the desert and set it up there. Then you will see the gantry crane pull away and the *Luna* blasts off for space.

That *can't* be full size; no one has ever done it.

Try to find the transition point. Even money says you pick a point either too late or too soon.

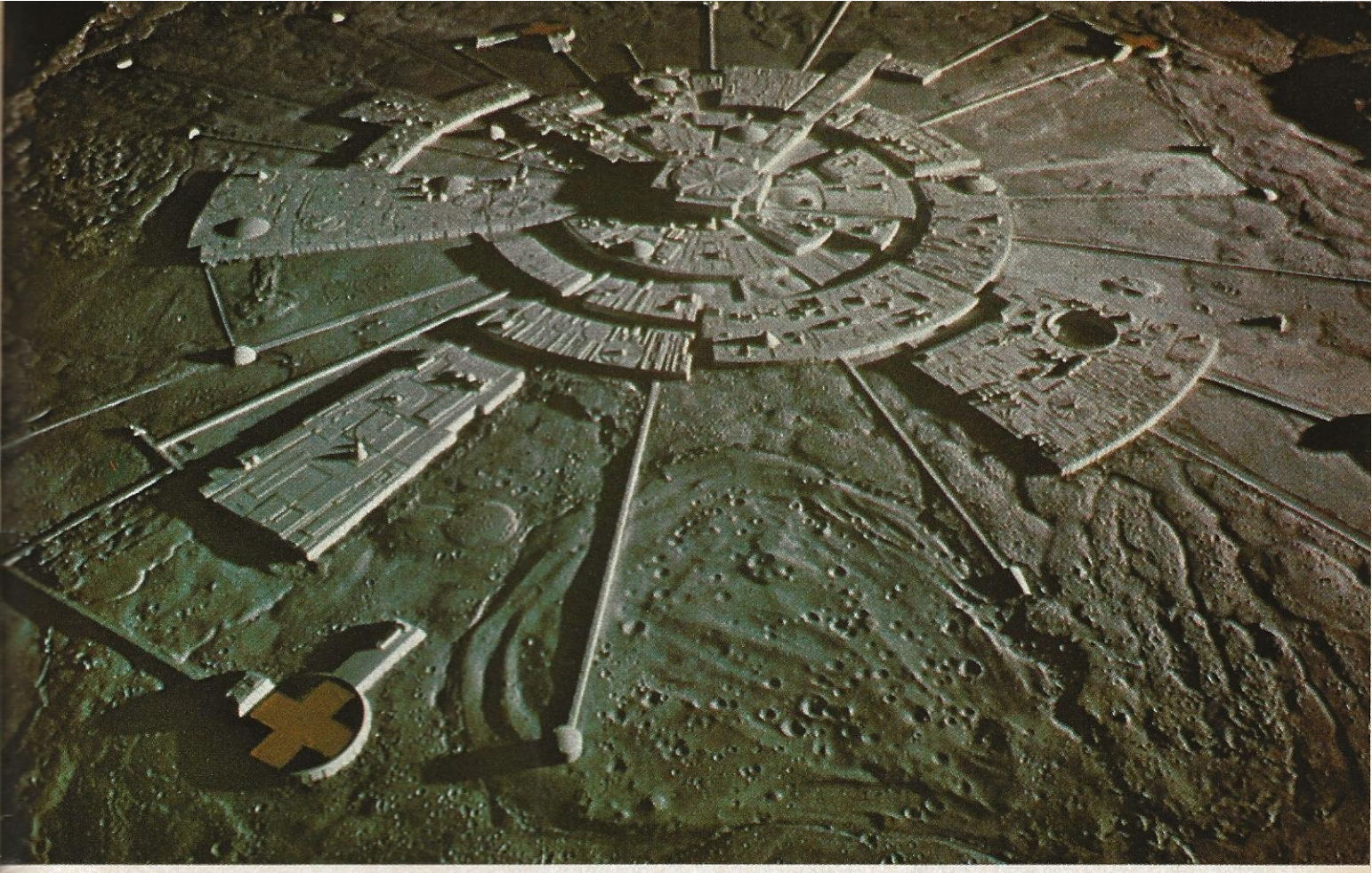
The *Luna* herself is one hundred fifty feet tall: the table model of her and the miniature gantry crane are watchmaker's dreams. The miniature floodlights mounted on the crane are the size of my little fingertip and they work. Such animation is done by infinite patience and skill. Twenty-four separate planned and scaled setups are required for each second of animation on the screen. Five minutes of animation took longer to photograph than the eighty minutes of live action.

At one point it seemed that all this planning and effort would come to nothing; the powers-that-be decided that the story was too cold and called in a musical comedy writer to liven it up with—sssh—sex. For a time we had a version of the script which included dude ranches, cowboys, guitars and hillbilly songs on the Moon, a trio of female hepsters singing into a mike, interiors of cocktail lounges, and more of the like, combined with pseudoscientific gimmicks which would have puzzled even Flash Gordon.

It was never shot. That was the wildest detour on the road to the Moon; the fact that the *Luna* got back into orbit can be attributed to the calm insistence of Irving Pichel. But it gives one a chilling notion of what we may expect from time to time.

Somehow, the day came when the last scene had been shot and, despite Hollywood detours, we had made a motion picture of the first trip the Moon. Irving Pichel said "Print it!" for the last time, and we adjourned to celebrate at a bar the producer had set up in one end of the stage. I tried to assess my personal account sheet—it had cost me eighteen months work, my peace of mind, and almost all of my remaining hair.

Nevertheless, when I saw the "rough cut" of the picture, it seemed to have been worth it. ★



MOONBASE ALPHA CEASES OPERATION

After months of waiting, wishing, and hoping, we've finally gotten *the word* from ITC. As we go to press, there are *no* plans for the production of a third season of *Space: 1999*. The sets, models, and costumes for the show have already been put into storage. Nick Tate is back in Australia working on an adventure movie (title to be announced). Both Barbara Bain and Martin Landau are in the process of considering various movie roles that have been offered to them.

But officials at ITC are quick to point out that this does not mean the show is officially dead. They can go back into production and film an additional thirteen episodes as early as this summer.

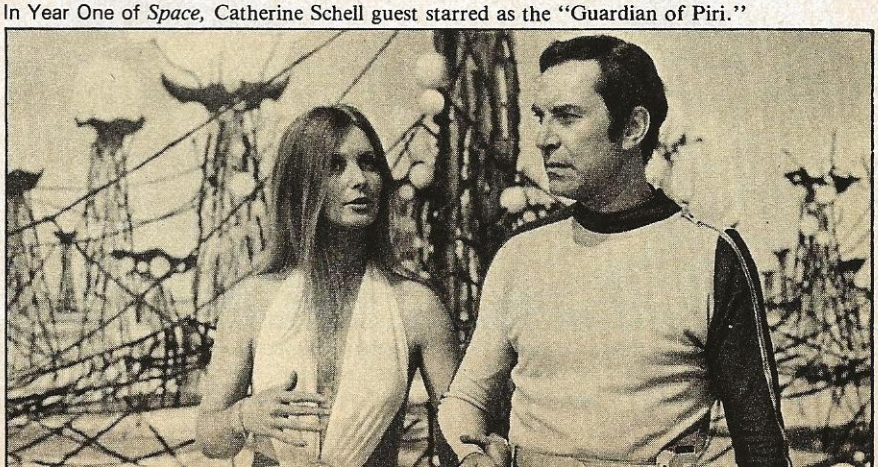
Right now, however, they are forced to play a waiting game. They must wait for enough U.S. TV stations to commit themselves by requesting a third-season package. The stations, in turn, are waiting for feedback from YOU, the TV audience. So it is the task of all fans of *Space: 1999* to mobilize; unify; organize. Don't waste your time trying to pressure ITC. Concentrate on applying massive write-in pressures to the station(s) in your area that carried *Space* for the first two seasons. If the number of requests is large enough, it will be in their interest to request a third-season package. Only when enough stations have made such a request will it be economically feasible for ITC to go back into production on the show.

This will almost certainly mean that there will not be a soundtrack album released for the second season. Indeed, the cancellation will probably put a halt to all further *Space: 1999* merchandising—so if you haven't already purchased your model Eagle, do it soon.

In the meantime, the first and second seasons of *Space* will be available for syndication. However, here again there's a catch. ITC plans to sell *Space* as part of a syndication package. If stations want to pick it up, they must also buy the other shows being offered: previous Anderson/ITC efforts, including *Thunderbirds, The Prisoner*, and such Supermarionation shows as *Joe 90* and *Captain Scarlet*.

ITC is still committed, however, to continue producing new, first-rate SF. Production on their space drama *Capricorn One* has just been completed. Post-production work is now being done. In addition, we have been informed that they are in the process of working on a new SF series for television. There is no further information at the moment, but as soon as there is, you will be able to read about it here, in the pages of STARLOG. ★

In Year One of *Space,* Catherine Schell guest starred as the "Guardian of Piri."



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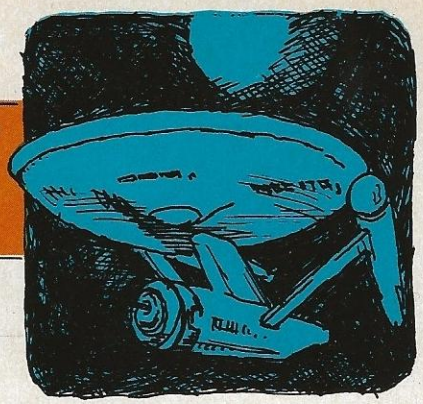
STAR TREK REPORT



A Fan News Column by Susan Sackett

EDITOR'S NOTE—

In answer to the constant requests for updated information on the *Star Trek* movie and other Trekfan data, we are delighted to present a regular column by Susan Sackett. Known to fans around the world for her long association with Gene Roddenberry (first as office secretary and presently as his personal assistant) Ms. Sackett is uniquely qualified to keep us up to the minute with all the latest happenings. In addition to her duties at Paramount, she is also author of Ballantine Books' *Letters to Star Trek*. Questions from fans should be directed to Susan Sackett, in care of STARLOG Magazine, 180 Madison Avenue, Suite 1503, New York, N.Y. 10016.

fan (fan) n. An ardent devotee or admirer, as of a sport, atheletic team, or famous person. Short for fanatic.

I first heard the word "fan" when I was eight years old. My best friend Dianne said she was starting a Johnnie Ray fan club and asked me to join. She would be President, of course, and I would be the member.

"Who is Johnnie Ray?" I ignorantly asked.

"He's a singer."

"Oh. What does he sing?"

"He doesn't just sing. He cries, and tears his shirt."

"Oh." How stupid could I be? "Well, what do 'fans' do?"

"We write him letters and call him up on the telephone. He lives in New Jersey."

"So far?" At the time, I lived in Bridgeport, Connecticut, which, everyone knew, was the center of the world.

Today I live in California (which, everyone knows, is the center of the world). Now I *answer* telephone calls from Connecticut. And letters from New Jersey, and all kinds of communications from all the other states and 50 different countries. My daily life is almost totally devoted to fans: those wonderful people who are inexhaustibly fascinated with the stars and facts about the *Star Trek* series, and, recently, with the future *Star Trek* movie.

It is not always possible for me to write back, or to chat at length with each caller. Fortunately, I get to visit with quite a few Trekfans around the country each year at the many conventions. Recently at the Puget Sound Star Trekkers Convention in Seattle, I had a chance to answer some *Star Trek* movie questions first hand. Here are the ones I was most often asked:

Q. ***Who Is Writing The Movie?***

A. *Star Trek—The Motion Picture* (working title) is being scripted by two British writers, Chris Bryant and Allan Scott. Although not as well known in this country, they are quite famous in the U.K., where they are highly esteemed dramatists. Screen credits include *The Petersburg-Cannes Express*, starring Julie Christie and Donald Sutherland; *Joseph Andrews*, based on the Fielding novel, starring Ann-Margaret and Peter Firth; and *Don't Look Now*, again with Julie Christie and Donald Sutherland. Although they do not have a science-fiction movie to their credit, they have all the skills of their craft and are working closely with Gene Roddenberry as well as our director, Phil Kaufman, and our executive producer, Jerry Isenberg. To prepare themselves for *Star Trek*, the screened nearly every science fiction film ever made (and all 79 *Star Trek* episodes), and read nearly every major science fiction book in existence (as well as related non-science fiction materials). They have frequently made use of Kellam DeForest Research, located on the Paramount lot, and have consulted with Jesco von Puttkamer (NASA Office of Manned Space Flight, and the man who will serve as our technical advisor on the movie). With all of these elements at work, the movie will not only be true to *Star Trek*'s world, but will be a major dramatic theatrical motion picture as well.

Q. ***Has Anyone In The Cast Been Signed?***

A. William Shatner, despite rumors to the contrary, has *not* officially been signed, although negotiations with him are proceeding smoothly, and he is definitely interested in being in the picture. Leonard Nimoy is also interested in doing the movie but has not yet signed because of some merchandising clauses which have yet to be resolved. We are hopeful of getting *all* of the original cast to recreate their television roles, and all have expressed interest in doing the film. In addition, there are parts being written for two new leads, a male and a female, and we will have major motion picture stars for these new characters.

Q. ***When Will Production Begin?***

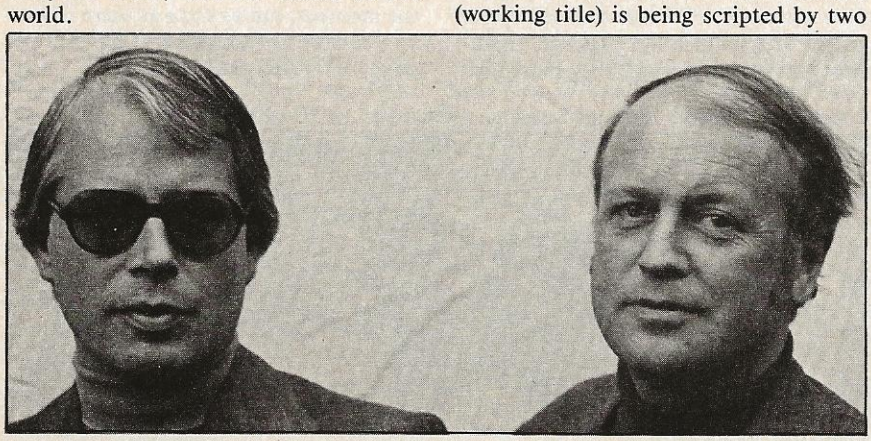


Photo: Caroline Hyman

After Paramount rejected Gene Rodenberry's proposed script for the *Star Trek* movie, the search was on for the right screenwriters. Experienced British writers Allan Scott (left) and Chris Bryant were chosen and are now hard at work on the final version of the script.

A. The script will be completed by March 1, and, subject to approval by Paramount Studios (which has already approved the script outline), construction of sets, props, models and costumes will begin shortly after that date. Principal photography should commence around August of 1977. There will be a shooting schedule of at least 12 weeks, followed by 6 to 8 months of post-production work. We are now aiming for a release date of July 4, 1978.

Q. ***Why Is It Taking So Long To Get This Film Going?***

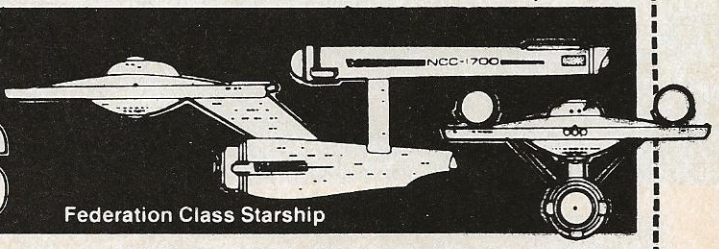
A. There are several reasons. First of all, the successful translation of a television show to the motion picture picture screen has *never* been accomplished. Of course, there have been TV shows which were spawned by their wide screen predecessors, but the reverse process is something unique to the industry. Naturally, there were those at Paramount who were wary. Gene Roddenberry got the "green light" for a *Star Trek* movie over two years ago. His script had the honor of being the first one rejected by the studio (he is now novelising it for Bantam Books, to be published later this year). Since then, six other outlines or treatments have been presented to the studio, each greeted with the familiar downward point of the executive thumb. The studio, still aware of the continued interest in a Trekfilm from mail that flooded in, made an arrangement with Jerry Isenberg and his Jozak Company last July. It was the shot in the arm the project needed. Jerry was assigned as Executive Producer (Gene Roddenberry is still Line Producer), and from that day he moved into his office on the lot. He has an amazing ability to size up the situation, take command, smooth things over, and make things happen. He and his family are also Trekfans—his children go off to school each day in their Mr. Spock t-shirts!

Q. ***Will There Be Many Changes In The*** **Enterprise** ***Sets?***

A. As none of the original sets and props survived after the television series was cancelled, everything will have to be built from scratch. The studio has promised a very adequate budget for the film—eight to eight-and-one-half million dollars. With a budget of this size, we can do so many more things than were done in the original TV production. The *Enterprise* will undergo a face lift. The exterior will be the same familiar *Enterprise*, and basically you will recognize her interiors—the bridge, the corridors, the conference rooms, and so on. But they will be bigger, and greatly updated to reflect new scientific concepts. Many people have asked if the Ballantine publications of the *Star Fleet Tech Manual* and *Blueprints* by Franz Joseph will be used as guidelines for the movie. While there are many interesting things presented in these two works, Gene Roddenberry will have the final say as to which ideas from them will be used in the movie. Gene is an avid proponent of non-violence. Don't look for any ships of the *Dreadnought* Class in the film.

What can you, the fan, do to help get the picture made? First of all, you can help by watching this column in each issue of STARLOG. Here you will get *accurate information*, not rumors. Second, try to hold off on the unnecessary telephone calls to our office ("Hi, is William Shatner there? I'm calling from Connecticut.") This slows down our work, and the progress of the film is in turn slowed down. Multiply such a call times 50 or so each week—time which Diana Funaro, our receptionist and secretary to Chris and Allen, could be using to *type the script*—and you can easily understand one element in delaying the film! Finally, we love your letters, but please don't write to us telling us how much you want the movie. We are working virtually night and day to *make* the movie. We probably want it at least as much as you do! After all, we're all fans and fanatics, too! ★

Science Fiction MINIATURES



Federation Class Starship

All ships listed are in 1/4800 scale unless noted otherwise.

From **GAMESCIENCE**—plastic spaceships with stands included:

GS-1 Federation Scout $2.00
GS-2 Federation Destroyer $2.00
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WA-2 Fed. Recharge Cruiser $2.25
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WA-4 Fed. Battleship $2.50
WA-5 Fed. Shuttlecraft $1.50
[WA-5 has stand and is 1/400 scale]
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WA-11 Klgn. Light Cruiser $2.25
WA-12 Klgn. Destroyer $2.25
WA-13 Klgn. Recharge Cruiser $2.25
WA-14 Klgn. Battleship $2.50
WA-15 Klgn. Tug $2.50
WA-20 THOLIAN Battle Cruiser $2.25
WA-21 Thln. Light Cruiser $2.25
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WA-30 E'CKOR Battleships $2.25
WA-31 E'ckor Light Cruiser $2.25
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WA-51 ROMULAN Scout $2.25
WA-52 Romln. Destroyer $2.25
WA-53 Romln. Bird of Prey Marauder .. $2.25
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WA-61 Zlthn. Destroyer $2.25
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WA-1001 Small Stand [comes with WA-5, you need 4 for WA-23] ..... $.15

Stands are metal bases and lucite rods.

WA-2000 Game rules with three ships and stands [WA-1, WA-10, & 1 Tholian Scout] $9.00

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Circle catalog number of each miniature desired.

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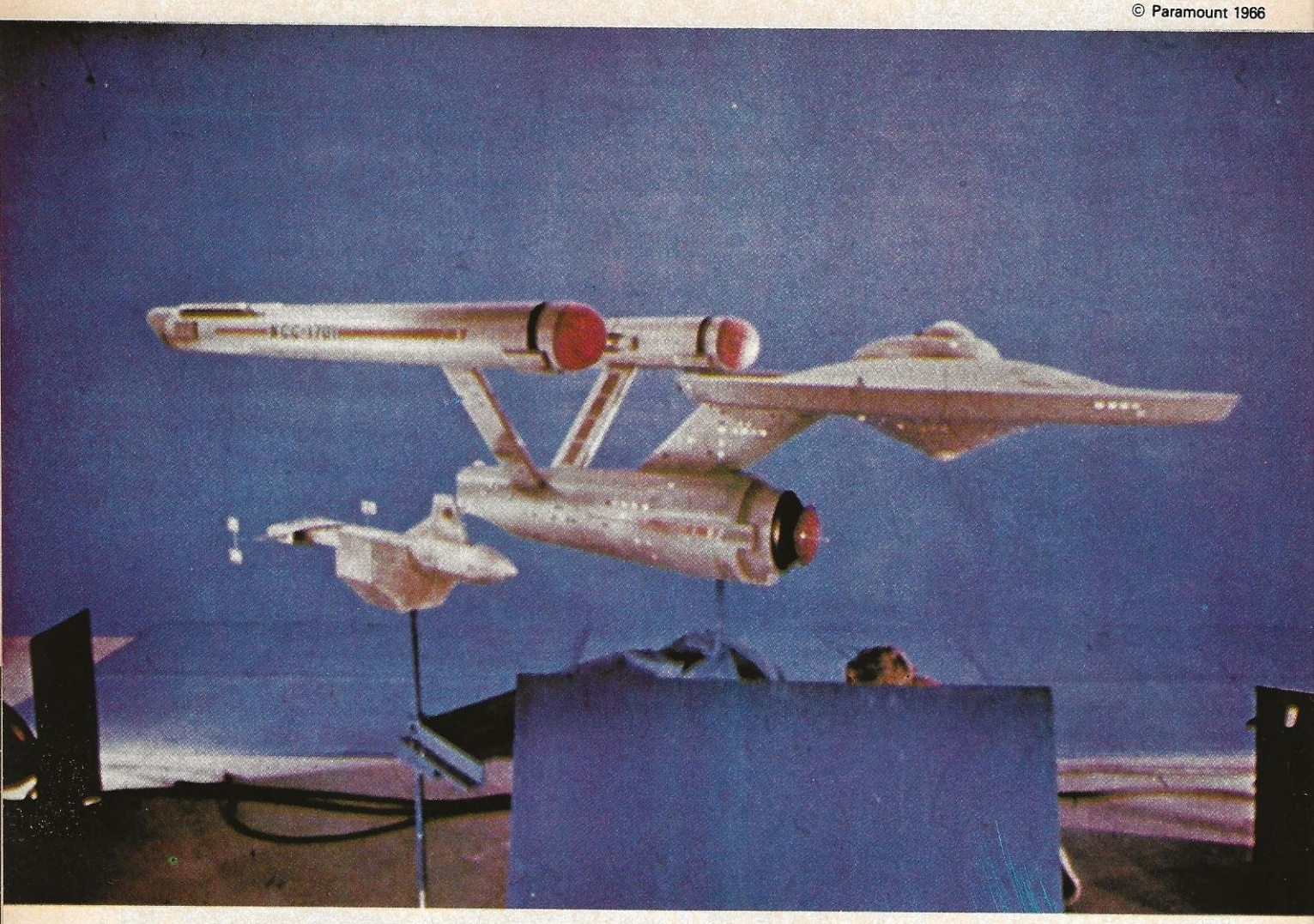

STARLOG PRESENTS

THE MAGICAL TECHNIQUES OF MOVIE AND TV SPECIAL EFFECTS

PART I:

The Use of Miniatures

Since STARLOG first appeared, not quite a year ago, no single subject has been more requested by readers than special effects. Letters have asked to see behind-the-scenes photos, to catch glimpses of "how they do it," to read explanations of the amazing technology involved: to learn the secrets of visual magic.

Okay. You asked for it, you got it!

This issue we present **The Use of Miniatures**, Part I in a special series of photo-articles explaining the various processes by which artists and craftsmen make the impossible look real. Over the course of the next few issues you will explore movie studios and film labs, and you will talk with painters, make-up artists, model builders, demolition experts, special cameramen and designers. . . in effect, you will get to know the people who create the wonderful effects that we find so special.

Each STARLOG reader will have his favorite technique or effect. Be patient. We want to cover each topic carefully and with ample picture examples. The field of special effects covers many separate areas and, if you are interested in science-fiction movies at all, we are sure that you'll find each exploration fascinating and rewarding.

Why, you may ask, is a subject like special effects finding its way into a science-fiction magazine?

Simple. Although special effects are certainly a part of many types of films, the very nature of science-fiction drama calls for the creation of larger-than-life images which must appear as plausible realities. Science fiction is not journalism. It goes beyond the everyday, beyond that which already exists, and projects into the future *that which will be possible*.

The clue to the necessity for special effects is in that last sentence: "will be" implies that it isn't—therefore it must be visualized and created from scratch; "possible" implies that it must seem realistic. The job of the special-effects man is to visualize and create that which does not exist and to make its reality seem not only possible but logical.

The goal of this series will be to explain the backroom secrets and, of equal importance, to help you evaluate the special effects you see. Some efforts are worthy of the highest artistic praise; others can ruin an otherwise strong film.

We now symbolically break a champagne bottle over a bust of Willis O'Brien and launch this special series. It is dedicated to the artistic geniuses who have enriched our spirits with imaginative visions, and to the crucial (and much maligned) blending of technology, art, and business that has made science-fiction special effects footage some of the most memorable scenes in movie and TV history.

In the jargon of the trade, Special Effects is commonly referred to as SFX, or just FX.

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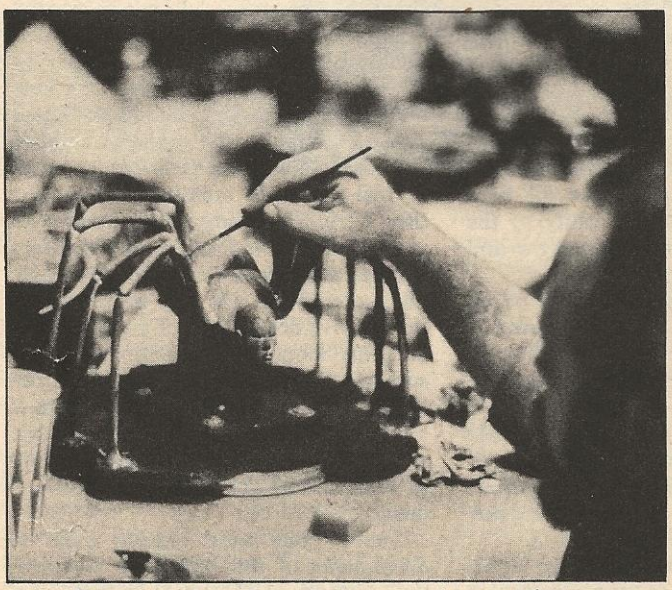
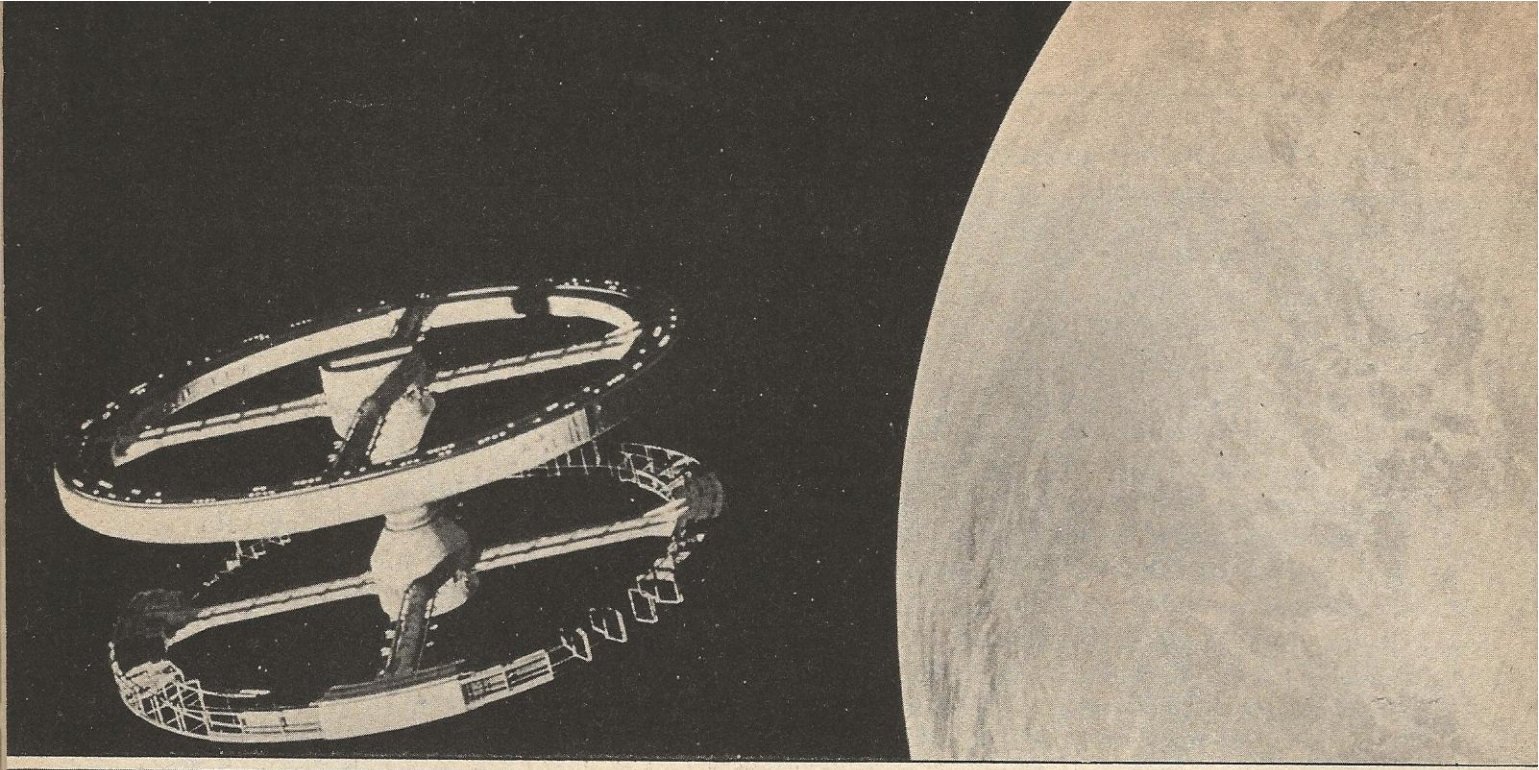


Color: The model of the *Enterprise* is mounted on an animation stand and surrounded by blue-backing for filming SFX sequences. Above Left & Right: Technicians for *Flesh Gordon* prepare models devised by Jim Danforth and David Allen for SFX sequences. At right Gordon's spaceship is rigged for filming and at left a castle tower figure receives final touches.



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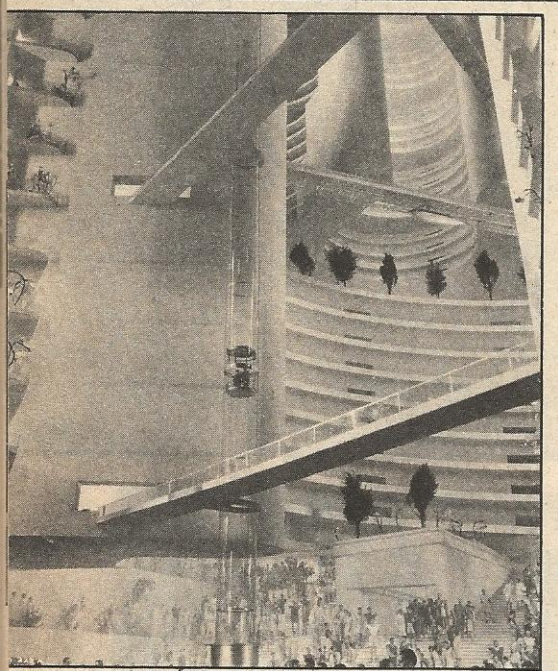


Upper: Model sequences in *2001* by Douglas Trumbull set a new standard for SF films. Compare this still with the one from *This Island Earth* on the next page. Above Left: An example of a hanging miniature from Korda's *Things To Come.* With FX designed by Ned Mann and Harry Zech, *Things* is as much an SFX landmark as *2001,* forty years later.

By DAVID HUTCHISON

CREATING THE GRAND ILLUSIONS

The term *science-fiction film* is often used interchangeably with *special-effects film*. Indeed, the quality of the special effects in a science-fiction film will often determine its success—even above acting and script—consider *2001: A Space Odyssey*.

It is the special effects model designers and engineers who give visual substance to the mental images envisioned by SF writers.

For example, such famous sequences as the landing of *United Planets Cruiser C-57D* on Altair IV in *Forbidden Planet*; the destruction of Los Angeles by alien machines in *War of the Worlds*; or the destruction of the entire world in *When Worlds Collide*, have all been given concrete cinematic reality by the skillful efforts of model makers and special-effects crews.

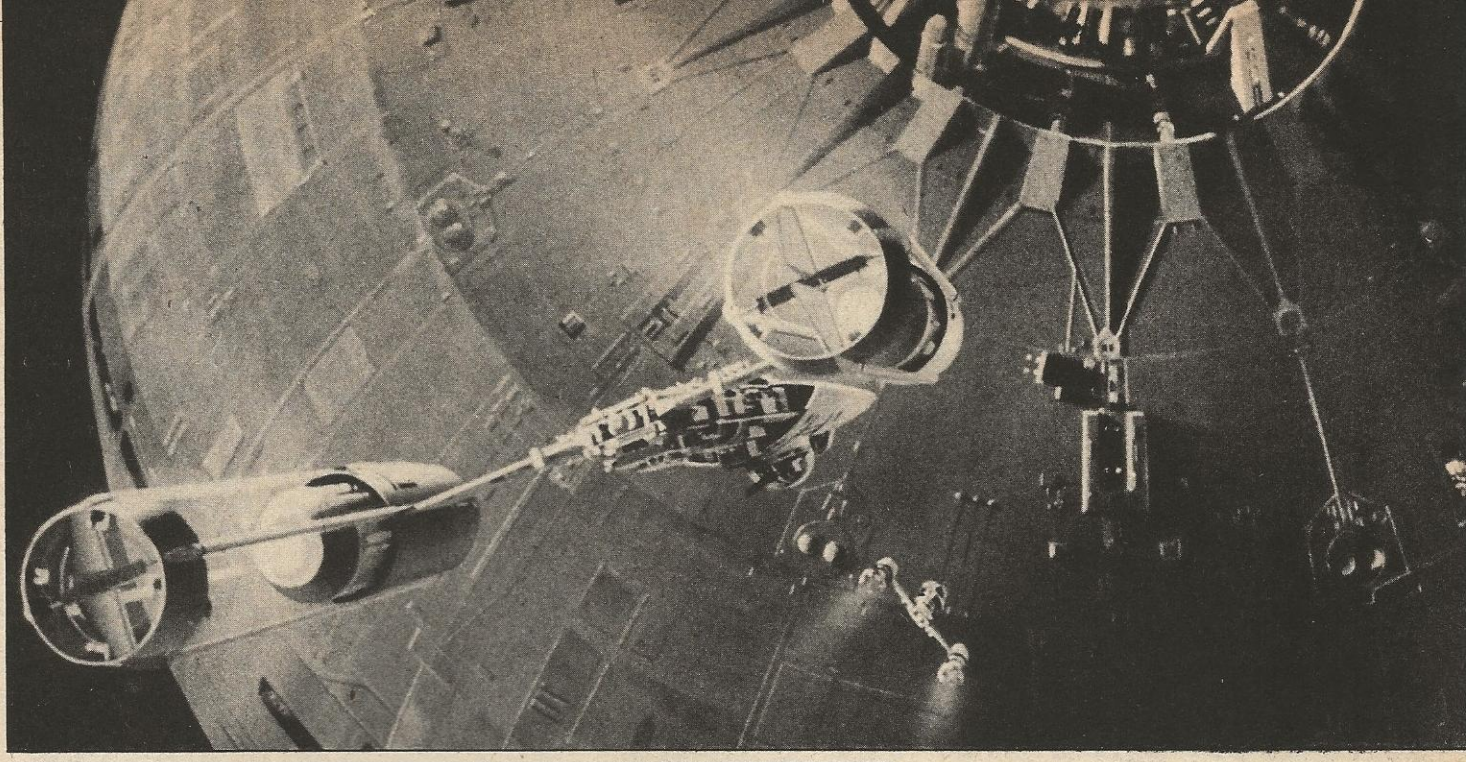
These exemplary sequences from famous SF films became cinematic realities through the use of miniatures. Miniatures were necessary because those effects were either so elaborate or unusual as to make the use of full-scale sets out of the question, or pictured such devastation that full-scale operations would be hazardous to the crew and difficult or impossible to photograph.

Even though miniatures are often used as a cheap way to get a spectacular sequence on film, they are the most difficult of all special effects to photograph successfully. Miniatures are the ultimate refinement in the art of representational model-making; a successful miniature must appear to be undistinguishable from full-size reality on the screen. This standard alone makes miniatures the most expensive of all special effects.

Precision crafted miniatures exact so high a price in labor and talent that producers often settle for second best and today's audiences can spot them in an instant. They can no longer be fooled by the cellophane water of early "B" films or the sponge rubber trees and balsa wood houses of so many Japanese monster movies.

The recent film *Earthquake* made use of some of the most sophisticated and expensive miniatures seen in recent times. Teams of model makers created miniatures of existing buildings. Live action photography with the actors established the reality of the locations and various landmark buildings. There was no doubt in the audience's mind that they were seeing actors on location in real full-scale buildings, as indeed they were. The miniature footage was cut in during the destruction sequences without a perceptible change. Although the audience thought they were viewing the massive destruction of a city, it was only the models being destroyed. The success of these sequences depends on the audiences first having established a building as "real" and then substituting an extremely detailed, carefully constructed model for the destruction sequence.

One of the most exciting uses in *Earthquake* of this technique involved the Ahmanson Theatre in the Los Angeles Music Center. An exact scale replica of the theatre was crafted in miniature by the studio's team of highly gifted model-makers. First the sequence was filmed on location at the real



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Above: This preproduction sketch from *Star Wars* is a good example of the kind of artwork necessary in the planning stages of an SF film. From this the SFX director can estimate the crucial factors of cost and time as well as practical feasibility.

theatre with 300 extras running from the theatre at the start of the earthquake. The camera position was carefully noted in relation to the real structure. This position was duplicated in scale with the model of the theatre and the sequence of the theatre-model being shaken apart by an earthquake was recorded.

On the theatre screen the audience sees the real photography of the 300 extras streaming from the theatre. At an appropriate point, a split is made and the model footage is substituted for the theatre as it is destroyed. This destruction sequence printed with the live extras appears *very* real on the screen.

Intricate and sophisticated models have existed whenever the necessary time, patience, skill and money were available. One of the early greats dates from 1930 and was 20th Century Fox's musical love story, *Just Imagine*.[1] Set in the 1980's, it utilized a model of the futuristic New York City featuring 250-story skyscrapers, airborne traffic cops, and a midtown canal for ocean liners. Effects director Ralph Hammeras (who was responsible for FX in Disney's *20,000 Leagues Under the Sea*) spent $250,000 and took fully fourteen months to create his vision of the future. One can only imagine what such an undertaking would cost today.

Producers often turn to special effects because they think of them as cheaper than the real thing. This is often the case. One of the climactic sequences from *When Worlds Collide* features New York City being engulfed by a tidal wave. Done in full scale, the production cost would be astronomical. In miniature it can become a reality.

A producer, director, or art director must ask himself what are the specific visual effects necessary for the success of this picture? The special effects man supplies the means to produce the visual impact designed by the art director. *What* effect is used, or whether effects are used at all, depends upon a number of considerations.

WHEN TO USE SFX

The first consideration is **image quality**. A crew could photograph a real hurricane, for example, in the Caribbean almost any autumn. But the severity of the physical conditions would tend to deteriorate the quality of the photography. Combat photographers face this problem in their attempts to get "usable" footage. On the other hand, the controlled conditions of a studio FX tank with miniatures will permit a more predictable result.

John Ford's *Hurricane*, which made use of models for its climactic storm sequence, filmed sequences which would be impossible to achieve under actual hurricane conditions. Lee Zavitz, who

1 The model for Flash Gordon's spaceship originally appeared in *Just Imagine*. The landing sequence involving this model is reported to have been lifted directly from *Just Imagine* and appeared in a number of episodes. A good deal of SFX footage became stock footage for the serials of the 40's and 50's.

was later responsible for the fine FX in *Destination Moon*, was called in to provide the means of filming the obliteration of an island by a hurricane.

Certainly it could not be done for real and photographed full scale since the technology to produce such a storm on demand does not exist and further, since the island was to be wiped clean by a tidal wave, there would be no place for the camera crew to stand in order to photograph such a storm. Miniatures in a studio tank were the only alternative.

Even today the storm FX sequences are judged to be some of the finest that have ever been produced. To be sure there are sequences which read to the audiences as models, the chief difficulty being the impossibility of miniaturizing water.

FX men are expert at miniaturizing landscapes and buildings, but when water is introduced into a sequence, difficulties arise. The principle problem is the necessity of overcoming the surface tension of the water. Droplets, spray, waves, and foam refuse to reduce their physical scale in relation to the model being photographed. Chemical agents can be added to the water to lessen the effect of surface tension and miniaturize the water droplets and spray, but such additives are limited in their effectiveness and a miniature water sequence can usually be spotted immediately for what it is. *Earthquake* overcame this difficulty with its miniature dam break sequence by shooting it darker than normal so that the night effect would obscure some of the physical properties of the water.

After the problem of image quality is settled, the next consideration is **flexibility** and **artistic control**. The director of a picture must decide to either allow the special FX sequences to be shot by another man, in another studio, or to be filmed with the first unit crew and thus remain under his immediate visual control. Cecil B. DeMille usually let Gordon Jennings do his own work—such was the regard that C.B. had for his FX specialist. Other directors feel that they can never relinquish any part of the visualization process to another man. So **artistic control** can be an issue in whether to go full-scale or miniature.

Alternatives to miniatures are painted backdrops or matte shots. Such decisions are based upon the physical requirements of the scene—e.g., is it a single long shot or is it a complete sequence with angle-shots and close-ups. A miniature offers far greater flexibility, but at high cost.

A miniature may be shot from a variety of angles and lit to reflect any number of different moods and times of day or even the season. A glass shot can be used from one angle only (that which matches up with the live action scene) and usually only with one light—that which matches the light of the live-action scene. Finally, some miniatures can incorporate motion, such as opening and closing doors and retractable landing gear; obviously a single painting can do none of these things.

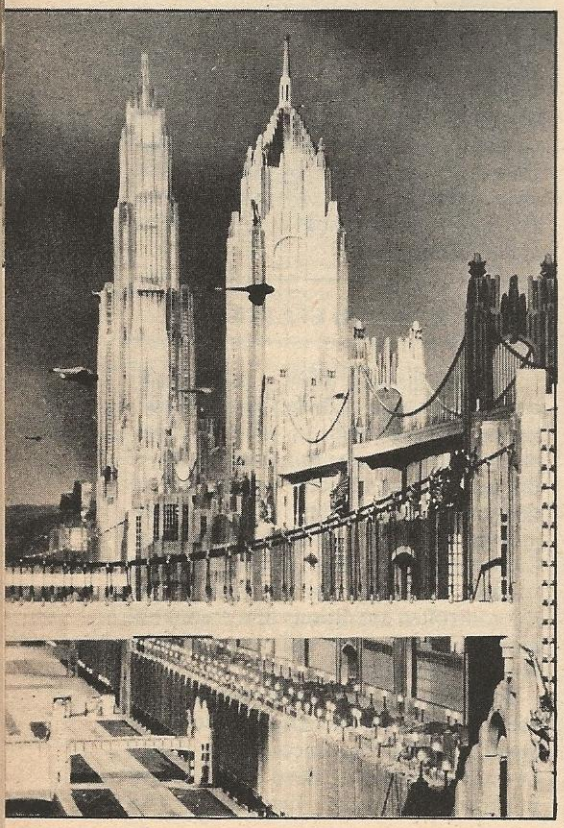
Finally, after image quality, artistic control and flexibility have been evaluated, the visual impact of the special FX sequence is weighed against **cost** and **time** considerations. Can a crew spend fourteen months and a quarter-of-a-million dollars to build a miniature set—or should they find an old skyscraper and have the Martians vaporize it? (Certainly the latter would look real.) What are the alternatives to sending a production team into orbit to photograph the actors in a weightless state?

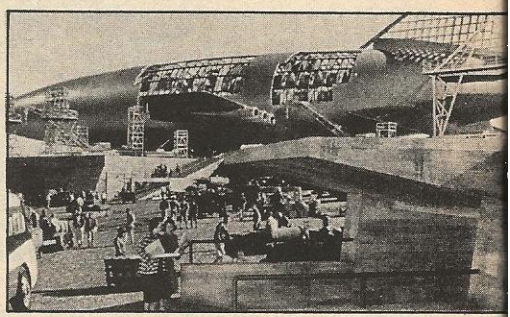
Even though such a project would guarantee authenticity, the cost and time necessary to equip and train such a team is just out of the reach of a science-fiction film. Robert Heinlein elsewhere in this issue discusses just such problems in his article on the filming of *Destination Moon*.

All of these questions and many more are answered during the pre-production or planning stages of a film. After the script is assembled, the art director prepares a series of drawings illustrating various key moments in the film. These visualizations are approved by the director, producer, and technical (or science) advisor, and the factors of technical feasibility and cost are evaluated. It is at this stage that either the miniature will be built or the sequence scrapped and the problem dumped into the lap of the screenwriter for rewrite.

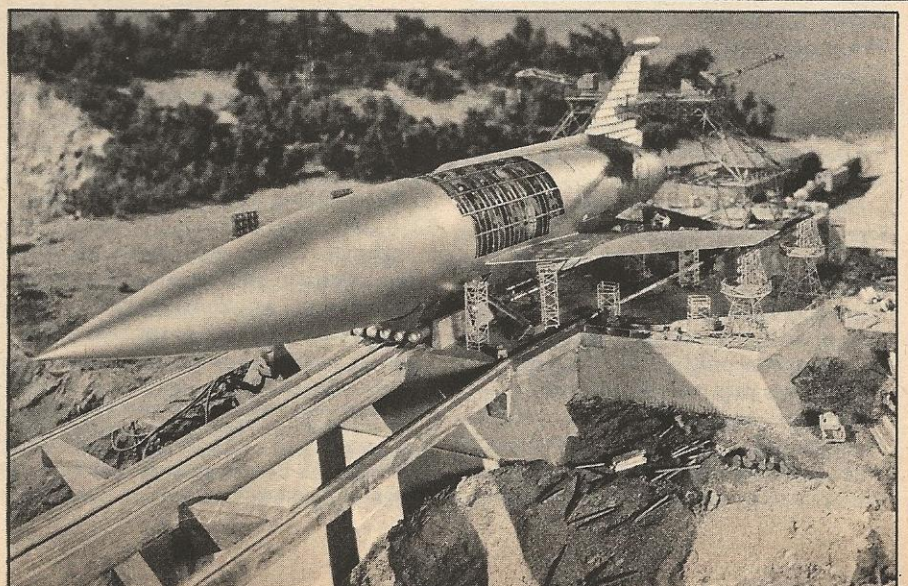
USES OF MINIATURES

Generally speaking, miniatures can be used in three ways: (1) They can be photographed complete in themselves, such as the dam break in *Earthquake*; (2) shot as a background detail revealed





At Left: New York of the 1980s was created for *Just Imagine* in miniature; similar visions were seen in the earlier *Metropolis*. Below: The extensive model work in Pal's *When World's Collide* centered around the model ship built to save a handful of the earth's inhabitants. Designed by Hal Pèreira and Albert Nozaki to be launched from a long ramp, most sequences were composites with live action, as illustrated right.



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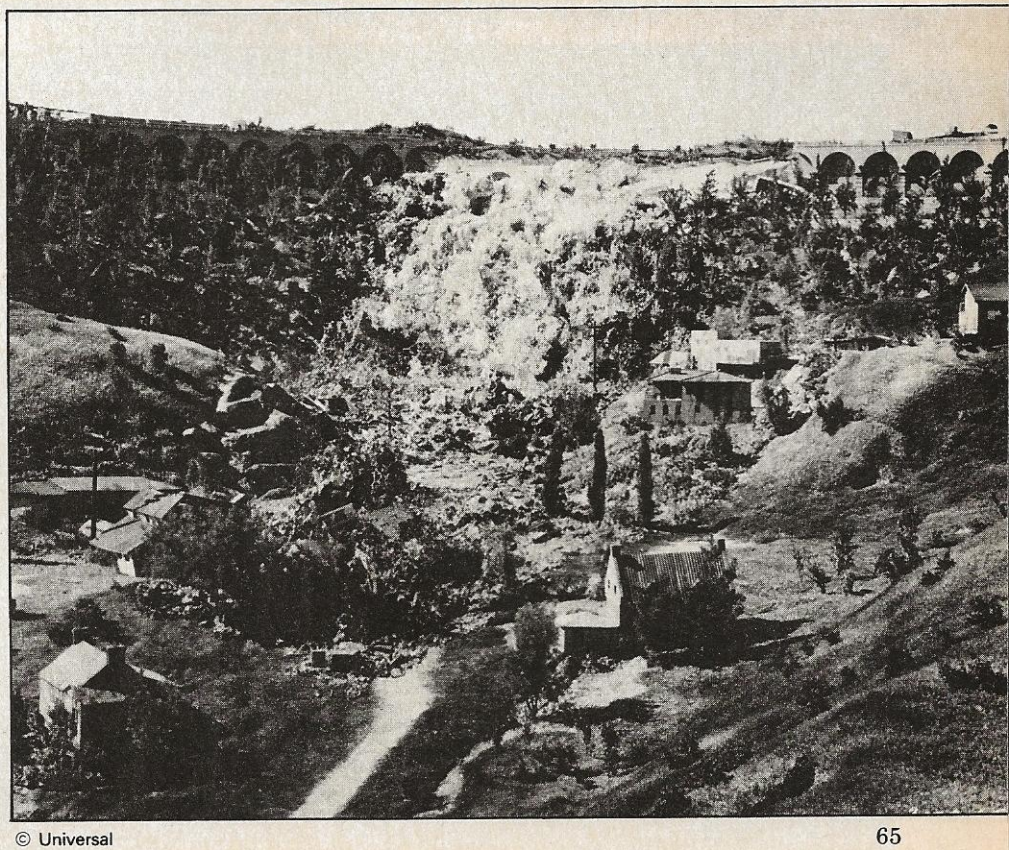
Above: Emperor Whang's castle, constructed of cardboard, plastic and discarded chessmen, achieved a look of realistic fantasy in *Flesh Gordon.* Below: Water FX are among the most difficult to miniaturize successfully. *When Worlds Collide* flooded 6' forms in a studio tank. Photographs of Herald Square were then optically superimposed. Right: *Earthquake* achieved a greater degree of realism with its 56' Hollywood Dam model.



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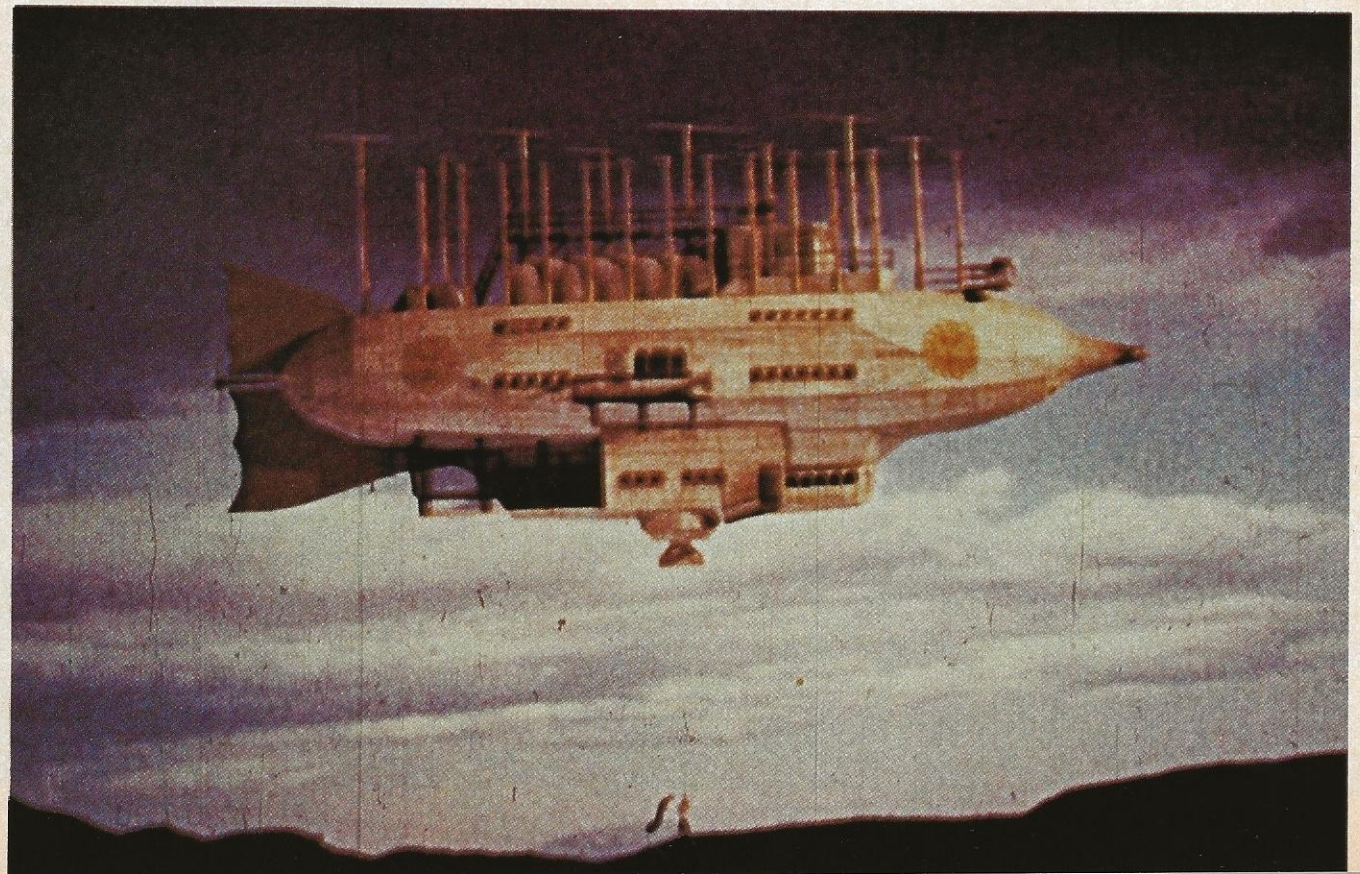
For *Twenty-Thousand Leagues Under the Sea* Burbank Studios constructed Stage #3 which houses a 90 by 165 foot tank ranging in depth from three to twelve feet. Focus is critical for model sequences, particularly so underwater. Note the fine guide wires for the model.

© Walt Disney Productions

Below: Based on early airship designs, this craft from the 1961 film *Master of the World* was a radical simplification of Verne's combined submarine-ship-automobile-airplane described in his 1902 novel.



through an open doorway or window; (3) used as part of a composite shot.

One of the most memorable composite miniature sequences was the tour of the *Krell* machine in *Forbidden Planet*. In the scene, Dr. Edward Morbius has taken Commander Adams and two crew members into one of the airshafts. Dr. Morbius and his entourage are seen as tiny specks on a walkway far below with the *Krell* shaft yawning down into infinity beyond them.

For this sequence, two separate pieces of film were printed to appear as one. Morbius and crew were photographed walking on the studio floor, while the camera was mounted as high above them as possible with a wide-angle lens so that their images would appear small on the film. The *Krell* shaft was photographed separately. This miniature stood thirty feet high and was ten feet across at the top.

Very often miniatures are not small. That is, they are miniature only in relation to the full-scale reality they are to represent. Few miniatures go beyond one-half inch to the foot, or 1/24 actual size; though from that basement scale they can go anywhere up to 7/8 full size. Beyond that, of course, we are no longer talking about miniatures.

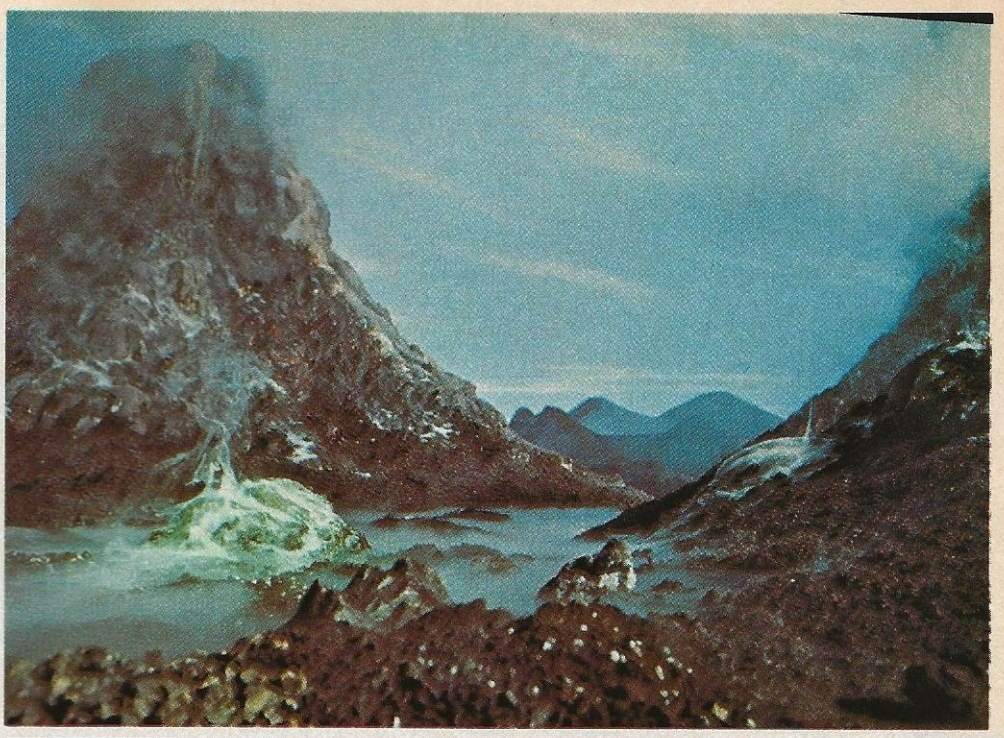
CHOOSING THE CORRECT SCALE

The miniature of the Hollywood Dam in *Earthquake* was scaled 3/4-inch to the foot. Using a miniature of this scale, or 1/16 the actual size, necessitates a camera speed of at least 96 frames per second instead of the usual 24. Why is such "overcranking," or shooting at a faster than normal speed, necessary when using models?

The answer becomes clear when put into the context of an actual scene that is to be filmed. The classic example involves a miniature sequence of a car plunging from a 200 foot cliff. Done in full-scale, it would take the car about three-and-a-half seconds to make the fall. If our miniature is built to 1/10 scale, the model will take only about 1.1 seconds to fall twenty feet. Filmed and projected at normal speed, no one would believe that a 3,000 pound automobile had fallen 200 feet. It would look like what it is—a toy car being dropped a short distance.

If, however, we photograph that fall, but this time increase the camera speed by a factor of approximately 3.2, the correct time-scale relationship will be restored. Since the sequence is now filmed at about 77 frames per second, the miniature action will be slowed down when projected and appear identical to a car falling 200 feet down the side of a cliff.

The proper camera-speed factor, or rate of overcranking can be calculated



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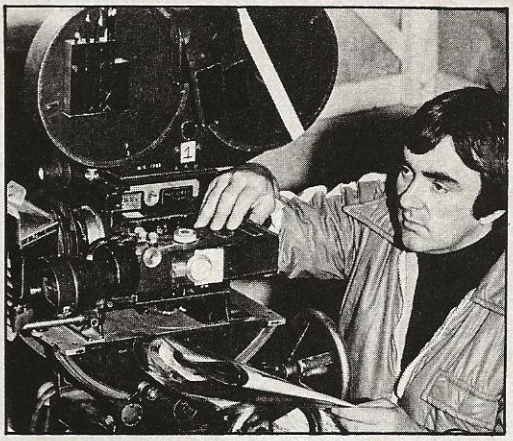
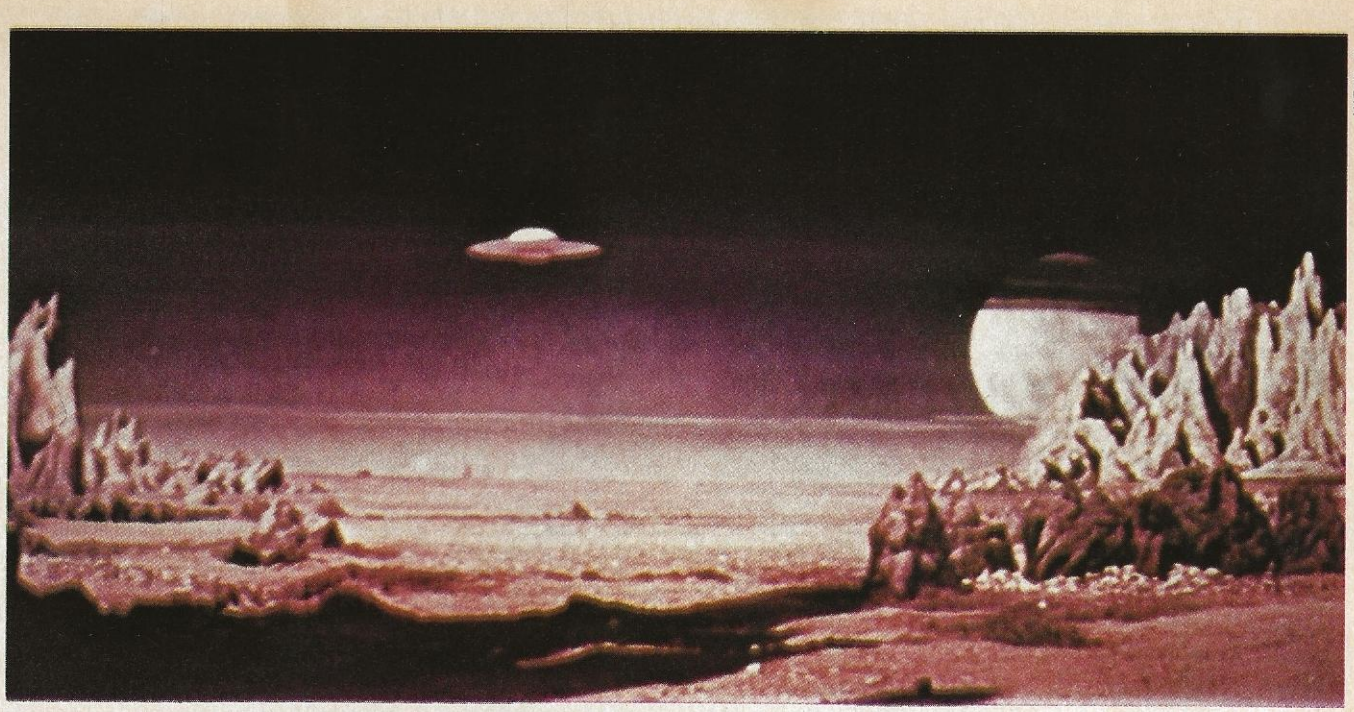


Above: Superb in its use of models and miniature sets, *Space: 1999* impressed viewers with carefully crafted FX every week. The surface of the planet Psychon is depicted in miniature. Left: Special FX designer and director, Brian Johnson, behind a high-speed 35mm Mitchell camera used for the model sequences. Below: Brian puts the finishing touches on an outer space graveyard. The floor of the crater is covered by chilled CO_2 fog. The smoking bottle contains titanium tetrachloride which forms white clouds spontaneously upon contact with air.



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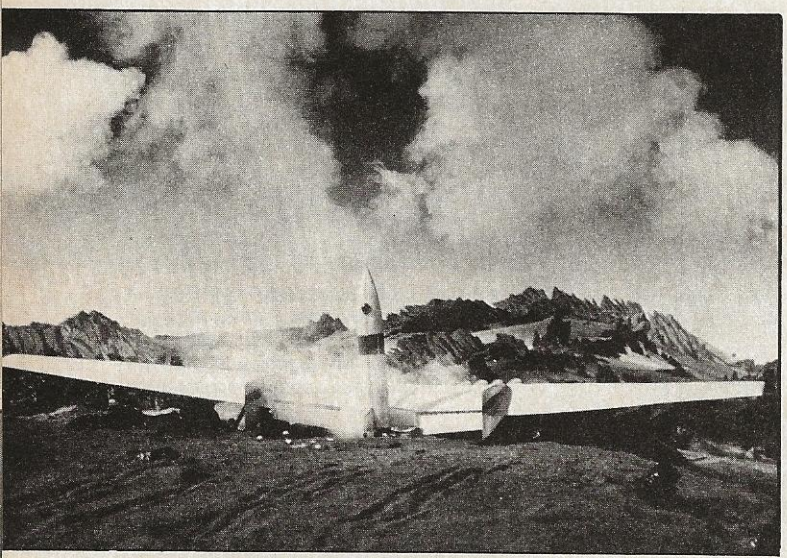
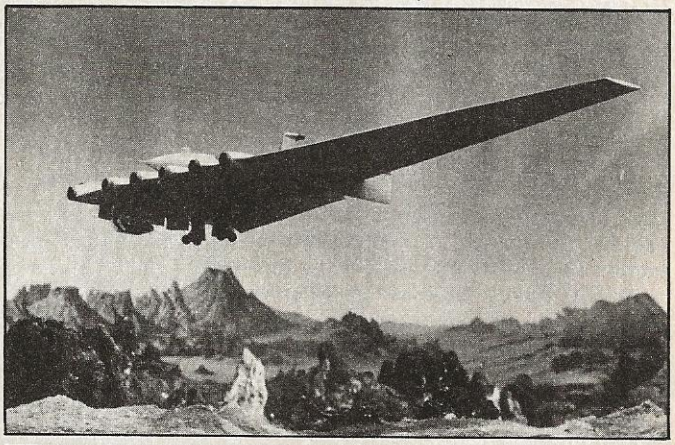
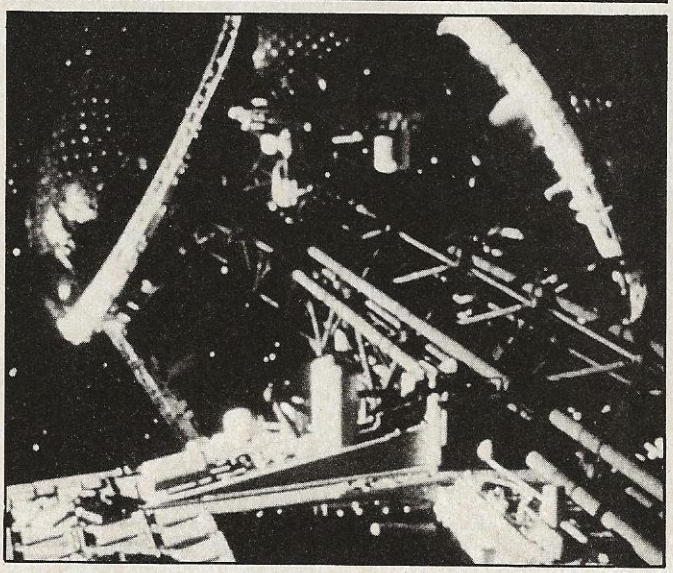
Above: The landing sequences from Forbidden Planet involved the use of three models and animation overlays.

Below and Left: The landing and take-off from the Martian surface in *Conquest of Space* used wire suspended models.







Above: Fine detail work enabled the 26-foot model of the *Valley Forge* to appear one-half- mile long on the screen.

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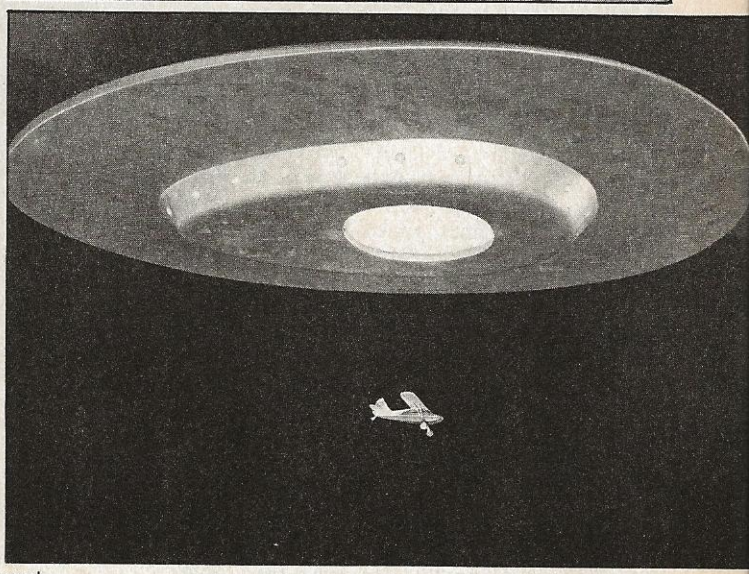


Above: Process photography in *This Island Earth* obscured most of the fine detail tooled into the original models.

matical formulae provide a starting place for the special FX man. Often his judgment and experience will alter camera speeds from the formula, since the mathematical formula does not necessarily mean it will "look right" on the screen.

Few models are built smaller than 1/64, since few cameras can operate beyond the necessary 200 frames per second that such a scale implies. Also the faster a camera uses up film, the shorter is the exposure time; this necessitates extremely bright illumination. Eventually the amount of illumination necessary becomes a scale-prohibiting factor.

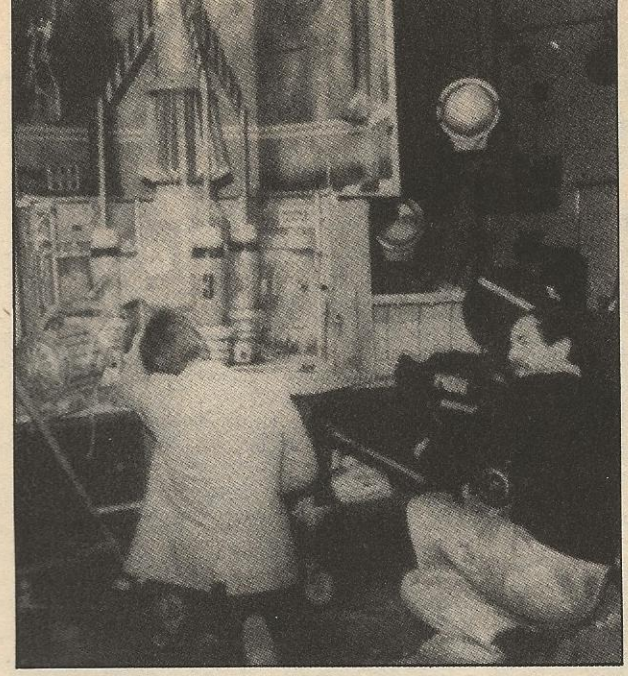
The selection of a scale for a model is usually a function of the amount of space available in the studio for miniature filming. A model will usually be built as large as can be managed in the studio, since it is often easier to build a model if the detail work is kept to a reasonable size. If extremely tiny hatches, doorways, trees or what-have-you must be carefully crafted by hand, the cost would be greater than if such detailing is kept to a comfortable scale.

Another consideration in selecting the scale of a model is the *degree* of detail that will be necessary. If a model must be photographed close-up, painstaking attention will have to be paid to the application of such detail or the illusion of reality will be lost.

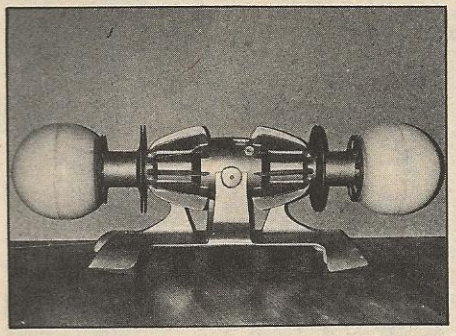
The space freighter, *Valley Forge*, in Douglas Trumbull's *Silent Running*, is a fine example of a highly detailed model. Inspired by the Expo '70 tower in Osaka, it was constructed of steel, plexiglass, and plywood and required the labor of thirty people for eight months before the delicate detail met Trumbull's exacting specifications. The 26-foot structure ended in a cluster of greenhouse domes that were two feet across and made of blow-molded acrylic plastic. The domes were drilled in a geodesic pattern and rigged with three layers of copper wire to simulate the tubular steel framework. External details, glued on piece-by-piece, were scavenged from 850 plastic model kits of a German army tank. Such miniature detailing of hatches, doorways, and equipment enabled Trumbull's cameras to work very close to the model with no loss of the feeling of authenticity. On the screen, the *Valley Forge* is one-half mile long.

PERSPECTIVES IN MINIATURE

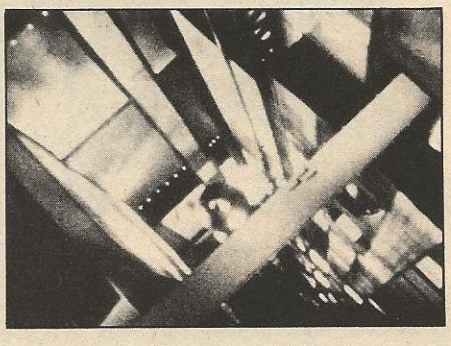
On the other hand, too much detail can also help destroy the feeling of authenticity! This is particularly true with landscape miniatures in which the human eye is accustomed to seeing diminishing detail toward the horizon. This is due to the eye's inability to resolve fine detail at great distances and to the effects of atmospheric haze.



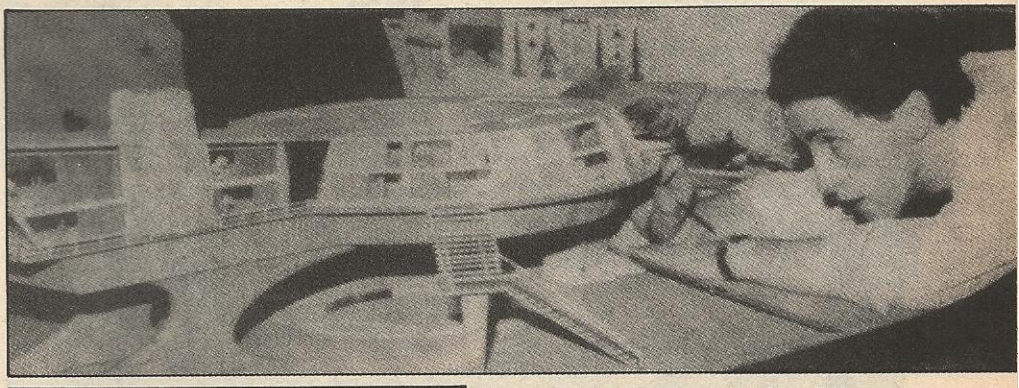
Left: A glimpse behind the scenes of *Thunderbirds Are Go*, a model animation series written by Gerry Anderson and produced by Sylvia Anderson. Preparations before filming take up hours of valuable time and one craft such as the Thunderbird 3 pictured here has to be made in several sizes, all to exact scale. The visual effects teams took five and a half months to complete the basic model construction for the series.

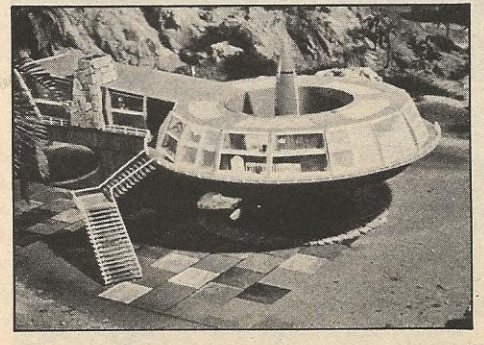


Above: This four-foot miniature was one of the devices that traveled up and down the Krell ventilator shaft, pictured right.



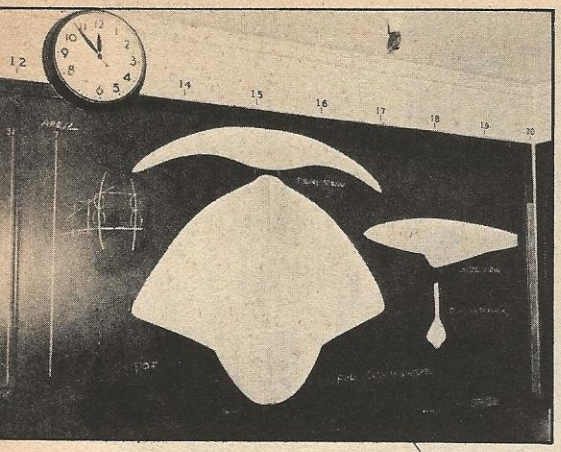
Above: Dr. Morbius and two visitors from Earth are reduced to mere specks by the vast Krell machine in *Forbidden Planet*.



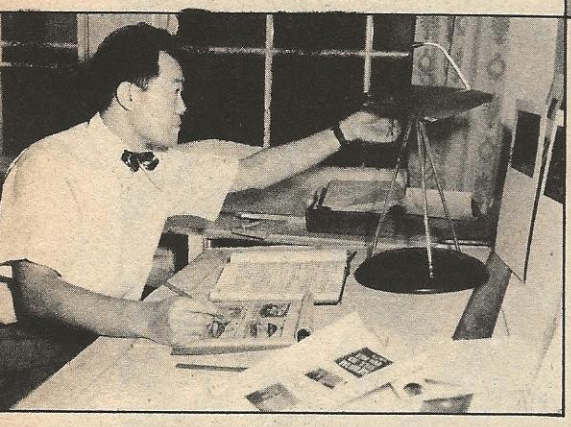


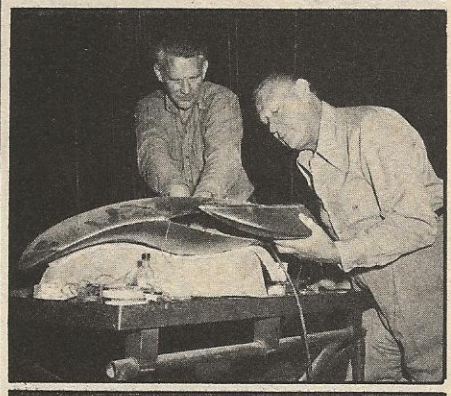
Above: One of the *Thunderbird*'s technicians applies fine details with a sable brush to the model which appears, complete with background, pictured left. The series was directed by David Lane with visual effects supervised by Derek Maddings. This technically demanding series was considered the training ground for the Andersons before *Space: 1999*.

Photos: © Paramount



Above: The original patterns for the Martian machines from Pal's *War of the Worlds*. Right: A studio model-maker polishes the surface of the master mold from which the war machines will be made.





Above: Storyboard artist sketches from an earlier version, note the far rear placement of the heat ray "eye." Above right: George Pal inspects the fitting of the green plastic nose during the assembly stage. Note the power and support cables and form-fitting mold supporting the model. Right: Studio crewmen installs the motorized heat-ray assembly before filming. Below: Filming is about to begin with the camera mounted low on the floor. Compare the size of the miniature farm buildings with the standing crew for scale!

A model landscape in a studio will photograph razor sharp from foreground to background unless special precautions are taken. One of the methods used to simulate this loss of detail at great distances is the use of diffusion filters over the lens of the camera. Such filters impart an effect of atmospheric haze by lowering contrast and softening edges. Unfortunately, they impart the same degree of softening to everything in the frame, so it can only be used in a few situations.

Alternatively, special machines can be used to lay down a layer of fog over portions of the set. Under certain conditions such fogging can appear quite realistic. The difficulty lies in controlling the artificial vapor, since any light breeze or movement of air can blow the fog into the wrong areas of the set or dissipate the effect entirely.

Other times, particularly in large studio landscape miniatures, large sheets of scrim-cloth can be stretched across the portions of the set that represent more distant vistas. A scrim can be made from any number of materials, including wire mesh, spun glass, or fine silk, which act as mild diffusers. If the miniature set is large enough or if it encompasses a distant enough vista, a number of layers of scrim may be used on successively further portions of the set to soften edges and flatten out contrast.

If a number of successive scrims are used, they must be stretched so that they will not move with the air motion present in the studio. Such movement of the various layers of scrim will produce a series of *Moire* patterns in the background of a shot, detracting from the reality of the scene.

Miniature sets can either be built entirely on a single scale or they can be mixed-scale. A single-scale set, such as a model ship, has its own natural perspective and can be photographed from a variety of different angles and points of view. Since every object is built to the same scale, the perspective will be correct no matter what position is taken by the camera.

Sometimes it is necessary to *force* the perspective of a miniature, so that there will be a greater illusion of depth than would normally be permitted by the scale of the model within the confines of the studio space. A good example of this is the miniature sequence in *War of the Worlds*, with the (miniature) Martian war machines waging destruction outside the farmhouse set. The mountains and hillsides in the distance are built to different scale than the foreground miniatures. Such mixed-scale sets can only be photographed from a limited number of camera positions. In fact, the greater the mixture of scales used to force the perspective, the closer you get to having only one usable camera position.

USING DIFFERENT SCALES

Very often duplicate models will be built to a number of different scales. Three models of *United Planets Cruiser C-57D* were built for *Forbidden Planet* at 22 inches, 44 inches, and seven feet across. The smallest scale size was used for the opening shots of travel in interstellar space. The second and third were used for the remarkable landing sequence on Altair IV. Very often it is easier to build different size models for use on a given set rather than one model and several different sets.

Similarly, the submarine *Nautilus* in Disney's *20,000 Leagues Under the Sea* existed as a full-scale mock-up 200 feet long and 26 feet wide as well as in a half dozen scale models ranging from 18 inches to 22 feet long. These were used in a variety of situations such as the destruction of the frigate *Abraham Lincoln* by the *Nautilus*, the *Nautilus* traversing its underwater cave, and similar sequences.

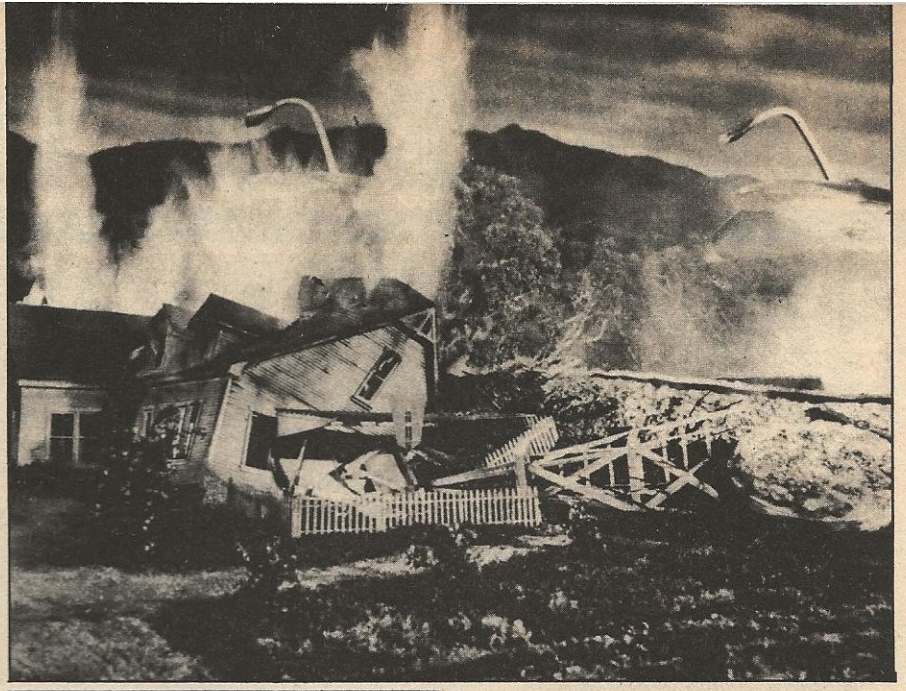
The art of hanging miniatures is almost a lost art. A miniature is positioned between the camera and the full-scale set and so aligned as to appear as part of the full-scale set. The process is similar to a glass shot, but being three dimensional, it can be lit from a variety of angles for various mood effects. Their most common use was for the addition of ceiling detail to studio sets. The method flourished during the 30's, particularly in Britain; it has largely been supplanted by less costly optical methods. Fine examples of the process can be seen in *Things to Come*.

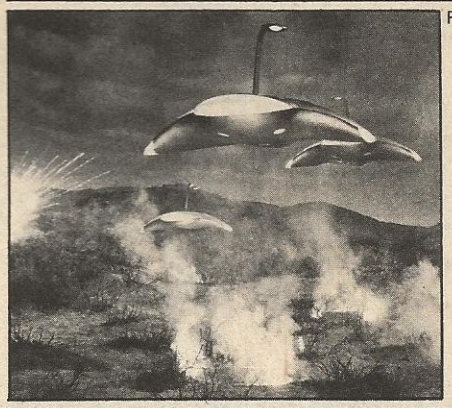
SFX MUST SUPPORT THE STORY

War of the Worlds remains as one of the great classics of science-fiction/special-effects films. The film is first and above all a science fiction *story*; the special effects serve no other purpose than to further the story and lend visual impact to the drama.

The care and craftsmanship that went into the special effects are the hallmarks of the director, Byron Haskin, who had been head of Warner's special FX department, and Gordon Jennings, who had worked for DeMille and had lent his skills to Pal's previous production *When Worlds Collide*. Sadly, this was Jennings' last film as he died shortly after completing *War of the Worlds*.

Of the entire $2,000,000 budget, three-fourths (or a full $1,400,000) was spent on the special effects. George Pal wisely realized that no matter how classic the H. G. Wells' story, it would not support shoddy special FX work. Haskin and Jennings took the time to do the job right and it shows, dramatically, in the finished film.





Photos: © Paramount

Above: The model war machines in action destroy the miniature farmhouses. At Left: Amid smoke and explosions in miniature, the Martian machines hang from 15 power and support cables. Optical FX of the heat ray will be added later. Below: Constant retouching of the wires with black paint was necessary to keep them invisible.

It took only forty days to film the live action sequences with the actors. It took six months to complete the miniatures and complex composites that generate so strong a feeling of reality that the utterly *fantastic* notion of a Martian invasion is accepted by the audience.

Good model work is as rare as the time and money necesary to produce it. George Pal succeeded as only a few, giving the top men in the field the wherewith-all to produce their best. The results of Jennings' model work were skillful enough to force an audience to suspend its disbelief, to accept the fantastic and be moved and entertained by it. These are the standards by which the FX in a science-fiction film must be judged. Such success is difficult and costly to achieve (hence, its rarity), but when such standards are met, there is no greater thrill possible for a science fiction fan. ★

In future articles of this series we will discuss how a miniature is combined with live action, matte paintings, glass shots and other areas of optical effects. Model animation, in the form of the stop-motion technique of Ray Harryhausen and others, will be covered as well.

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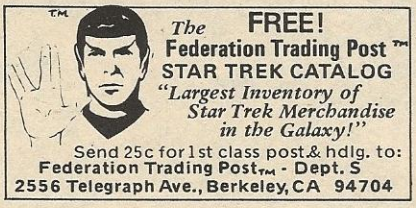
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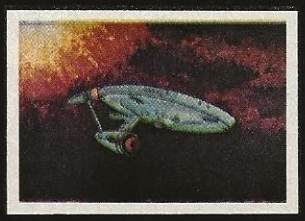
ST-12

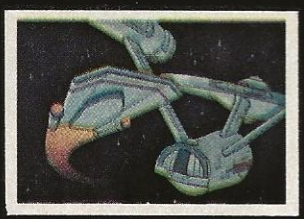
The ENTERPRISE escapes the fiery effects of exploding planet.
ST-4



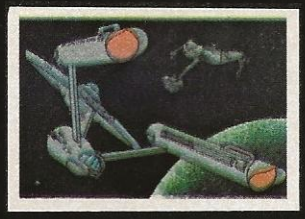
The Time Trap. Every ship is represented in this graveyard of lost ships. The ENTERPRISE is also there, struggling to get out.
ST-14

Spock questions Aleek-Om, an Aurelian, before the Guardian of Forever. (A very rare scene from Yesteryear)
ST-5

A very rare angle of the ENTERPRISE as the Aqua Shuttle blasts from its stern.
ST-15



The ENTERPRISE engages a Klingon ship in battle.
ST-8



A huge derelict spaceship, pod like, surrounds the ENTERPRISE as it drifts through a special passage. (From Beyond the Farthest Star)
ST-16

A gigantic red Sursnake is captured in nets by the Aquans. Beautiful underwater, innerspace scene. (The Ambergris Element)
ST-9

The ENTERPRISE is attacked by Kukulkan's ship, which has taken on the image of a gigantic Aztec serpent.
ST-20

By special arrangement with Filmation Studios, producers of the STAR TREK animated TV series, STARLOG now makes available the authentic, hand-painted "cels" as used in the production of the award winning show.

"Cels" are paintings on celluloid from drawings created by the studio artists.

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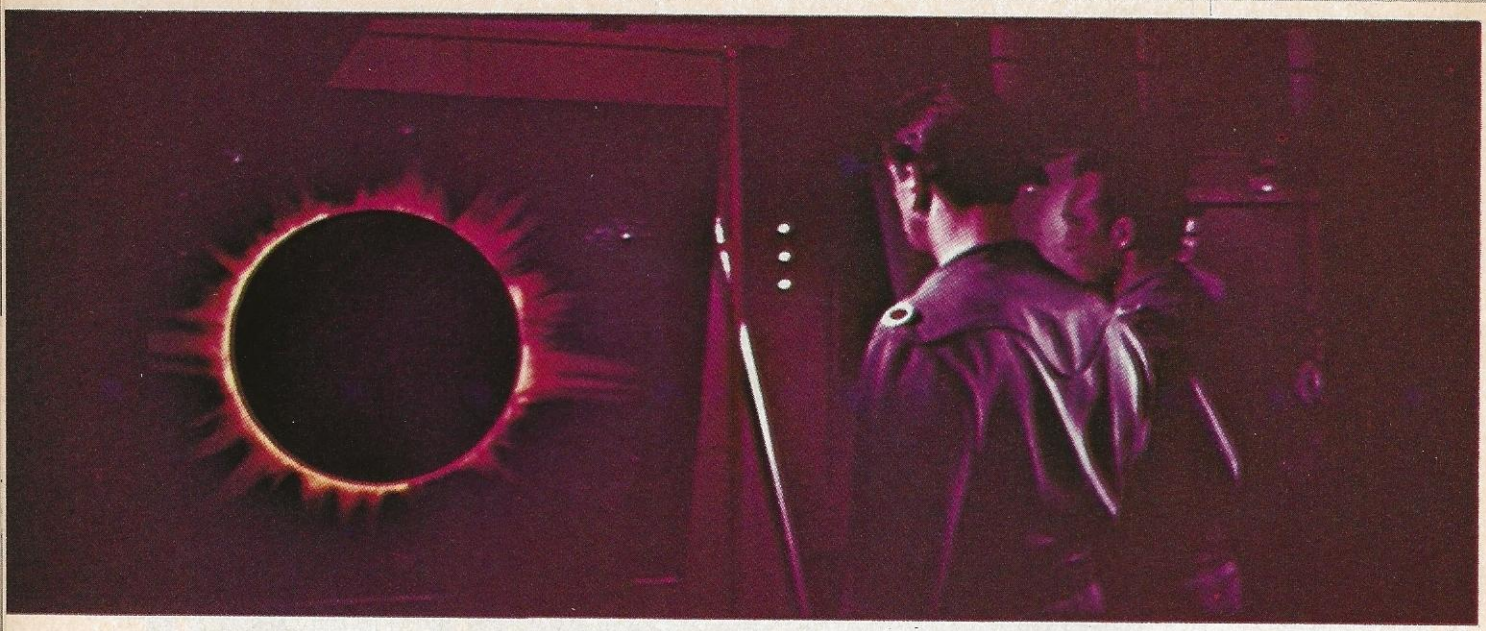
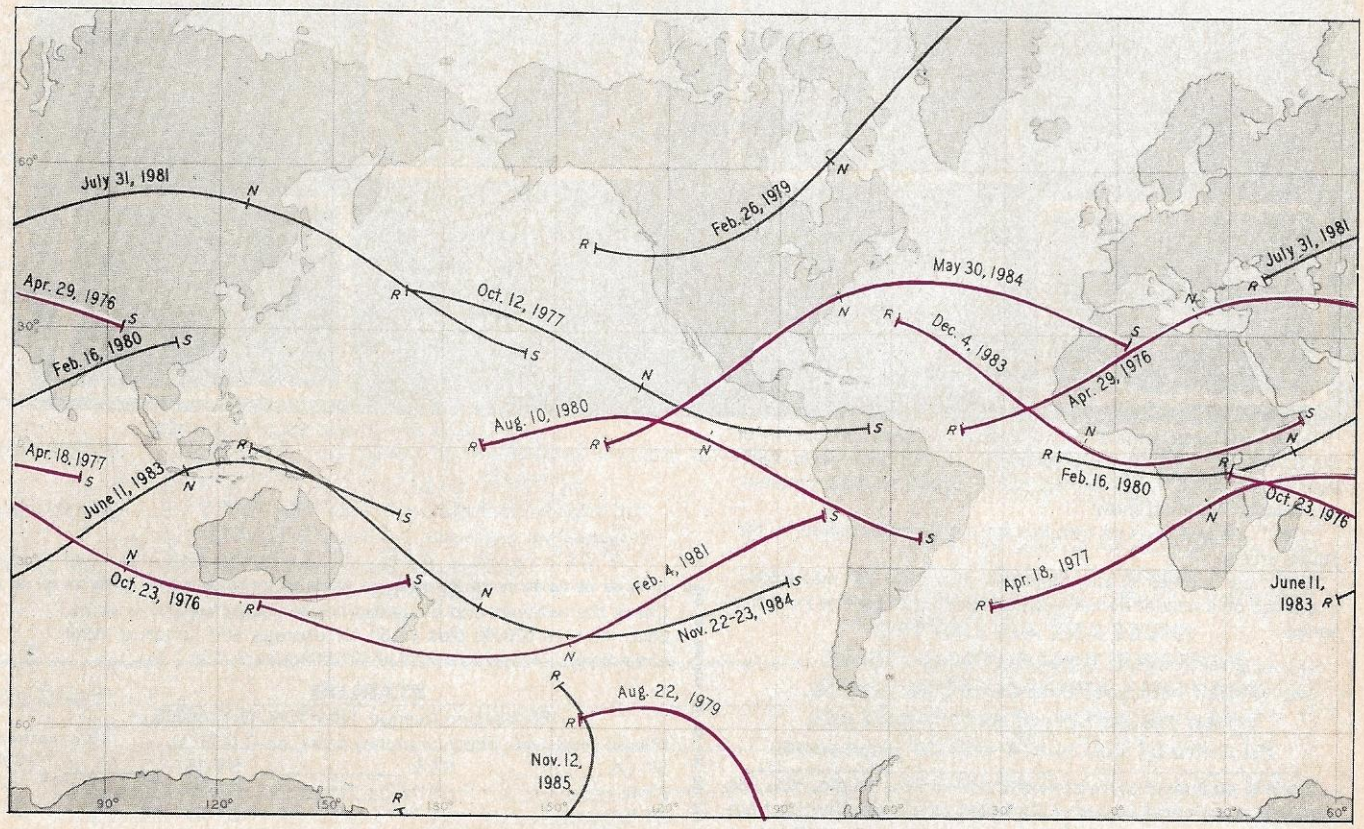
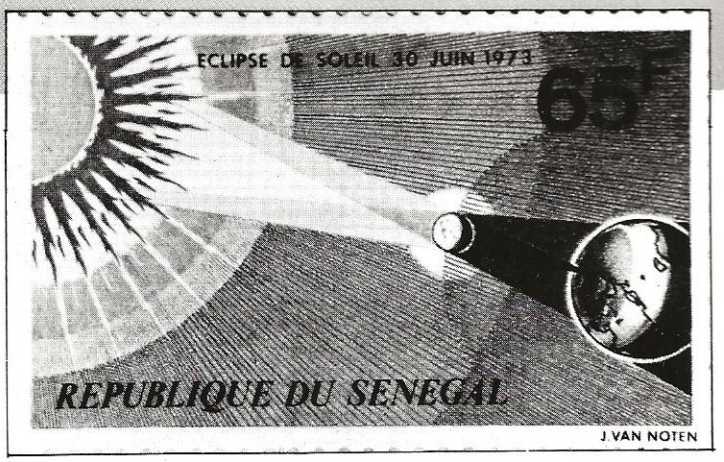


At some point in the not-too-distant future, Man will be able to observe a total solar eclipse wherever he wishes—from the vantage point of outer space. The crew of the *United Planets Cruiser* in *Forbidden Planet* appreciate this "man-made" vision.



During the decade 1976 to 1985 there are 22 solar eclipses: seven annular, eight total, and seven partial. On this map, the central lines are plotted in red for annular eclipses, in black for total ones. On each track, the letters *R, N,* and *S* indicate the sunrise, noon, and sunset points. The central lines have been plotted from data in *Canon of Solar Eclipses,* by J. Meeus, C.C. Grosjean, and W. Vanderleen (1966). (Information and explanation from *Sky and Telescope Magazine.*)

MYSTERIES OF THE DARKENED SUN



Although no longer a source of fear and superstition, a total solar eclipse still stirs the heart and the imagination. In 1973, the Republic of Senegal issued a stamp commemorating such an event. It is an accurate diagram of a total eclipse.

According to recent estimates, only about one percent of any generation sees a total eclipse of the Sun. Surely this accounts for the fact that the eerie and spectacular phenomenon appears in fiction and films as seldom as it does: too few people have experienced it for its power to be popularly understood.

The sky dims but the sun, to the unaided eye, seems unchanged; it's like a hazy day although the air is supernaturally clear and the sky is unaccountably blue; a breeze stirs; animals are disturbed and some prepare for nightfall in midday; shadows cast by the sun are wierdly blurred; and among the shadows are miniscule projections of a crescent; the wind rises; the temperature drops; bands of shadows—cast by nothing visible or solid—race along the ground; the light level drops to about that of a full Moon; the Sun flashes and flickers; suddenly there is what seems an explosion on the edge of a Sun that is now black-centered; then the Sun is totally eclipsed leaving the Earth dark, the purple sky speckled with midday stars, with bands of brown and orange light ringing the horizon; and the Sun is a black dot fringed with frozen filaments of light . . .

The film *Barrabas*, in depicting the primitive reactions of Biblical times, centered crucial action during an eclipse. In the comedy, *A Connecticut Yankee in King Arthur's Court*, it was the Medieval mind that was boggled by an eclipse. And in the super-futuristic *Forbidden Planet* (pictured here), the mature mind of man viewed an eclipse for its unique beauty while the film prepared its audience for the brain-boosting splendors and horrors to come.

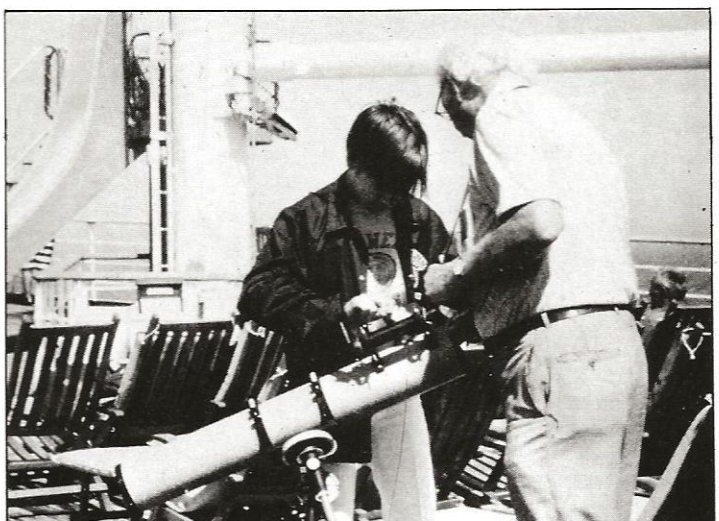
For a while, eclipses in North America were coming thick and fast: in 1970, an eclipse path obligingly swept up the East Coast from south America to Nova Scotia; in 1972 there was an eclipse that was met in the Atlantic Ocean by a chartered cruise ship, the Olympia; and in 1973 another eclipse streaked across Africa, the Atlantic, and South America (this eclipse also was met by a number of ships on "eclipse cruises").

But our luck is temporarily running out. For the period 1977-1985 only seven total eclipses are predicted—for anywhere on the face of the earth. Only one will touch the continental United States: on February 26, 1979, one will begin at sunrise (when the air is seldom clear) off Washington State and will quickly veer up into Canada to Greenland.

There's one good opportunity, however. An eclipse occurs this year on October 12th—cutting its dark line (40 miles wide) across the Pacific Ocean. Cruise ships chartered to meet this one will leave from Los Angeles (and perhaps other points along the West Coast). At STARLOG's press time, we have information on one such charter, which will take passengers aboard the *M.S. Rennaisance* on a 13-day cruise that will stop at various Mexican ports and rendezvous with the eclipse mid-ocean. Fares range from $1200 to $2700. For information, write (immediately!) to Science Source, Inc., 655 Boylston St., 4th Floor, Boston, Mass. 02116.

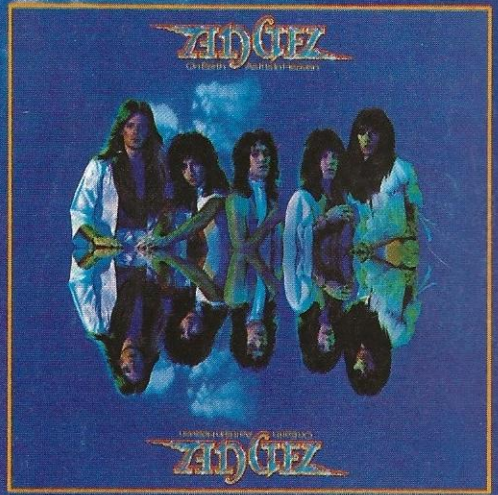
Don't underestimate the sensory and intellectual appeal of a total solar eclipse. Even though totality lasts only a matter of minutes, they are minutes never to be forgotten!

The woodcut pictured above is not an illustration from a fictional story but rather a pictorial representation of an actual occurrence. Today, people will save and plan for months in advance just to be on hand to witness this most spectacular of celestial events. Eclipse cruises have become one of the most popular ways of getting to the action.



ANGEL

On Earth As It Is In Heaven



Produced by
Eddie Kramer

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